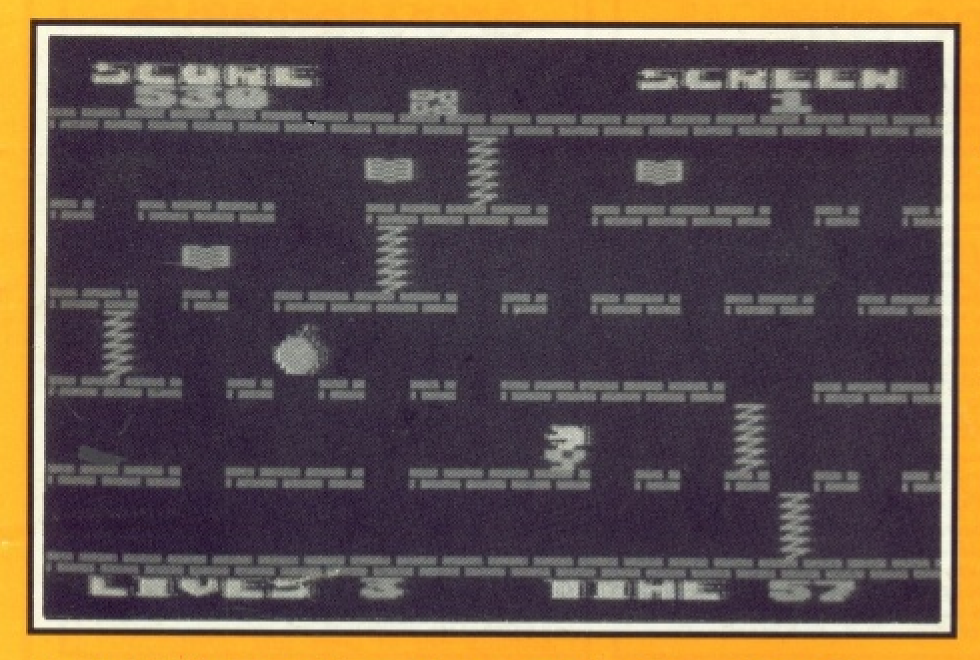
Page 6 Publishing's

NEW ATARI USER

The Resource for the ATARI CLASSIC and the ATARI ST

Issue 63 August/September 1993 £2.50



DANGEROUS DUNGEONS

You can type it in but can you fight your way out?

FOR THE ATARI CLASSIC

HOLLYWOOD

A review of Atari games inspired by the movies

COLOUR EXTENSION

Banish boring Graphics 0 forever!

MORE TRANSDISK SOLUTIONS

ANOTHER MASSIVE MAILBAG!

FOR THE ATARI ST

YES, IT'S LEMMINGS 2!

THE SPACE SHUTTLE

Is there a good simulation?

CREATING AN ORCHESTRAL SCORE ON THE ST



PLUS ... THE TIPSTER ... HOME ACCOUNTANT ... AN 8-BIT DESKTOP ... NEW SOFTWARE ... and much more!

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180
What can we say? A great darts challenge. Eight opponents, digitised speech, two player option. live joystick control, full matchplay scoring, a sense of humour, superb playability, this one has it all!

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Only seven seconds left to save the planet! Universal Hero has to save his skin and everybody else's by finding bits to repair a shuttle to get to a planet to pick up the spares to mend a space freighter which is out of control and about to blow him and his chances of getting back to earth to atoms.

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'The magazine for the Dedicated Atari User'

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Issue 63 - August/September 1993



Dreaming of my Atari!

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A disk containing all of the 8-bit programs from each issue of NEW ATARI USER is available either separately or on subcription. Single price £2.95 per disk, Subscription rates (6 issues)

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SUBMISSIONS

PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it!

The next issue of NEW ATARI USER will be on sale 30th September
Editorial copy date is 23rd August

PROGRAMS

FEATURES

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ST FILE

DEPARTMENTS

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PAGE 6 PUBLISHING's NEW ATARI USER

Editorial

Issue 63
August/September 1993
'The Magazine for the Dedicated Atari User'
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THE CREDITS

All of the usual stuff is on page 3 but here are the people who made this issue possible.

Les Ellingham apologises that this issue is a little late but there were many other things to do this time that ate into the production time available. Keep taking the tablets, though, and it all gets there in the end

Sandy remains as cheerful and helpful as ever running around picking up software and throwing scraps to the wolves

Paulette still manages to keep smiling through thick and thin. If I could be serious in this column then I would thank her for all the support she has given us but I can't do that can I?

And a big graci to **Grazia** who came in and helped us send out the last magazine. Mind you she thought that she was having a nice day out, little did she realise what Paulette means when she tells people they can sit around in the office for a couple of hours!

The Regular Contributors, who provide the backbone of the magazine and can generally be relied upon to come up with good articles and reviews, are ....

John S Davison	**Stuart Murray**
John Sweeney	**Paul Rixon**
Damon Howarth	**Ian Finlayson**
Allan J. Palmer	**The Tipster**

All other contributors for this issue are individually credited alongside their articles or programs. Thanks to everybody for sharing their enthusiasm with other Atari users.

Well, just two more this time to provide the inspiration and keep the old grey matter alive. Needless to say, the first was Van Morrison but Too Long in Exile is not one of his better efforts. There are a few great songs there but too few to put this anywhere near the top of the pile. He keeps saying it's just a job and sometimes you begin to believe it. The other was Runrig who, despite the rather pedestrian chart single, have turned out another cracker in Amazing Things. Seeing them on Top of the Pops really does prove that amazing things can happen, I can well remember when only you and me knew about Runrig and you only knew because I mentioned them here! Would dearly have loved Neil Young's Unplugged but had to make do with another spin of Harvest Moon, still as good as it ever was. Or was that Talking Heads?

The next issue of NEW ATARI USER could feature YOUR article or program, so SEND IT IN NOW!

PAGE 6 shows just what you can do with your Atari. NEW ATARI USER has always been created entirely with Atari equipment, initially on the XL but more lately with a Mega ST and other stuff, who needs PC's or Macs! With the exception of the final output on a Linotron and the use of an in-house repro camera for the photos and listings everything is done on the ST. Hardware includes a Mega ST2 (upgraded to 4Mb), SM125 Monitor, Supra 30Mb Hard Disk, an Atari Laser Printer, Citizen 124D printer, Philips CM8833 monitor, 130XE, XF551 disk drive, 810 disk drive, 850 interface, NEC 8023 printer. Principal software used is Protext and Fleet Street Publisher 3.0. Other software includes Kermit, Tari-Talk, Turbo Basic and various custom written programs on the XL/XE. Articles and programs submitted on XL/XE disks are subjected to various custom written programs before being transferred across to the ST via TARITALK. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. A disk with the finished pages as Postscript files is sent to a typesetting bureau to be output on a Linotron and, hey presto, finished pages are sent back exactly as you see them. It really does work! All that is left is to drop in the listings and photos.
Well, it's not quite as easy as that but you get the idea!

ON YOUR SHOULDERS

There are still all sorts of folks all over the world doing their best to support the Atari but the lowest part of the pyramid, the part on which everything depends, is *you*. Without your involvement everything will collapse.

Over in North America (actually Canada) one of the one-man companies that have supported Atari users for many years is Bellcom who have given the Atari users' community solid support in the field of public domain and shareware programs. In their last mailing, however, they stated that, unless Atari users really showed their support by May of this year they would abandon the Atari market and go over to the Mac. I don't know what happened but if their response was anything like the response we had from our last issue, I can assure you that they are now gone from the Atari scene.

I have said often enough in this column that everything we do, everything we sell, supports the production of the magazine and without your support we cannot continue. It's the pyramid again with the magazine at the top, the software and public domain in the middle and you at the bottom. If you go away things start to fall. I can understand that there is little new software around and you might have everything that there is on offer but there is no way that you have every new PD disk that we put together, so why have the PD sales declined so dramatically? It's time for you to do something to show your support.

MAKE A COMMITMENT
to buy at least two PD disks each issue

That's £5 spent every two months, surely your Atari is worth that?

There are a fair few of you who buy much more than that every time and our thanks go out to you, but there are an awful lot more that don't bother. Yes, I know that money is tight, but if you don't invest just a little in your hobby there will be eventually be nothing left for you to invest in.

Okay, so you don't have a disk drive.

MAKE A COMMITMENT
to buy at least two items of software each issue

Maybe £5 to £10 every two months, surely your Atari is worth that?

If every disk subscriber bought two PD disks every issue and every cassette owner bought two items of software then not only would the future of New Atari User be secured for years to come, we could actually start to expand the magazine once again. You could end up with more to read, more to do and more enjoyment from your machine than ever before.

Think about it now. Buy those two disks, buy those two items of software, buy a little more if you can, it's the future of your hobby you are investing in. We don't want to have to say what Bellcom found it necessary to say. It's Atari all the way for us, it's just up to you to show the commitment.

Les Ellingham

BEST BE QUICK!

Paul Rixon checks out a new language being used to write many of the new programs from Germany

Although it could be the latest simulation of Nigel Mansell's Indycar racing, QUICK is in fact a programming language for your Atari 8-bit. It's produced by Power Per Post of Germany and distributed in the UK by Dean Garraghty, who has also translated the user documentation. Of course, Turbo Basic has already established itself as THE replacement for Atari's built-in offering, so where does Quick fit in?

The authors of Quick aimed to provide a language that could boast the benefits of assembler - speed and power - without the normally associated overheads of programming time and effort. Quick is a structured language which means that, unlike Basic, it doesn't rely on line numbers and therefore helps to avoid the bad programming techniques that these inevitably encourage! It incorporates many functions that are usually unobtainable without resorting to machine code - playing digitised sounds, dealing with player missile graphics and accepting input from an ST mouse for example. The Quick compiler transforms your typed-in source code listings into machine code '.obj' files which can then be run using the 'L' Load option from DOS. The resulting code is, according to the authors' benchmarks, considerably quicker than Atari Basic, Turbo Basic and Kyan Pascal. Only Action beat Quick (by a mere 2 seconds) in a race to compute nearly two thousand prime numbers, and Atari Basic trundled home almost six minutes behind!

COMPREHENSIVE PACKAGE

The package comprises a single sided disk containing the Quick compiler, program editor, system libraries (source code files containing pre-defined sub-routines) and several demonstration samples. The various components are accessed by a shell (or options menu) which loads on power-up and swaps the editor or compiler into use as required. The system will run on all XL/XE machines (except the somewhat rare 1200XL) and DOS 2.5 is recommended. Users with more than 64K gain a useful speed advantage by the automatic creation of a ramdisk which is subsequently used during the compilation process.

All Quick source code listings have a common structure. The first optional sections contain a list of included libraries and variable definitions. All global variables - those which are visible throughout the program - must be declared before the main program begins, so that the compiler can maintain a table of the variables used. Bytes, words and array variable types are supported (but not floating point). The main program begins with the key-word MAIN, ends with ENDMAIN and may call any number of subroutines which are surrounded by PROC (name) and ENDPROC. Variables may be passed to subroutines, and local variables (which are visible only inside the routine, though they always retain their values) may be used as well. Quick incorporates around sixty program statements, some of which are similar to Basic, some from assembler or 'C' and others completely unique to Quick. Initial impressions are that the language is fairly technical in nature and probably ideal for assembler users who want to speed up their development cycle. However, after some practice and examination of the demo programs supplied it begins to seem less complicated!

Quick provides a screen-based text editor, unlike the line-based editor built into Atari Basic. You can use the cursor keys to scroll through the text, press Return to insert a new line, insert tabs (for indenting program structures) and insert new sections of code at any position. Control-key functions allow you to delete lines, define and copy blocks of text, search for specific text sequences and perform many other useful tasks. The editor is equipped with all the facilities you are likely to need in constructing Quick source code - my only criticism is that the cursor is fixed in a central screen position, so that pressing the up and down cursor keys moves the screen rather than the cursor. This seems rather unnatural at first, though it shouldn't take long to get used to.

COMPILED CODE

The Quick compiler translates your source code (albeit quite slowly without the benefit of a ramdisk) into machine code in three stages - first the variable assignments, then the straightforward key words, and finally runtime subroutines which include the more complex facilities for mouse handling and digitised music. You simply enter the name of the source file and the compiler reads each line from disk (or ramdisk) in order to create the final .obj file.

Though it's not intended for the novice user, those who are interested in programming languages really ought to take a look at this one. A large proportion of new commercial games (especially those from Germany) are now being written in Quick and with a small amount of perseverance, yours could be the next! A final thought ... Quick magazine - a disk mag produced by PPP to explain the ever expanding features of the language - has published an enhancement for Quick that enables your Atari to perform multi-tasking (running two programs simultaneously). Is there no limit to the power of the 8-bits?

QUICK *is published by Power Per Post of Germany and distributed in the UK by Dean Garraghty, 92 Thomson Avenue, Balby, Doncaster, DN4 0NU. The price is £15 plus £1 to cover postage and packaging.*

Mailbag

Well, the letters keep coming in! Thank you to all who included words of encouragement and appreciation (including Oliver Harrison, Dave Deeming, Freddy Van Heijning, Diane Heyes, H S Wood, Bill Jackson, David L Wadman, Arthur Morris, Avram Dumitrescu, Derek Fern, Bill Diggins and Dennis Fogerty). Without more ado, on with this issue's letters.

Allan J Palmer. Mailbag Editor

Allan J Palmer sits in the hot seat at the sorting office awaiting your letters on all things Atari - get writing!

Write to MAILBAG at Page 6 Publishing, P.O. Box 54, Stafford, ST16 1DR

PRINTERS, INTERFACES AND WORD PROCESSORS

A regular Mailbag correspondent is H S Wood of Bradford, West Yorkshire. He has used Phil Cardwell's "Page Six Writer" since it was published in issue 50 and has *"...found it to be an excellent word processor. There was just one initial snag because I use a joystick port printer interface. The solution was to boot the computer using my Eprom Monitor. A secondary problem was that if I pressed RESET I lost my printer routines. The cure to this was obvious!*

Recently, while writing a longer than usual report (with "Page Six Writer"), I found that the page headings gradually wandered down the pages giving a most ragged effect, and I decided that something had to be done. The fault is caused by the clash between the program 'page-eject' and the printer 'page-eject' routines. It might be overcome by the use of the 'Wait' command but then I would lose the effect of my printer buffer.

I cured the problem by replacing the three carriage return calls at hex 355C with 5 bytes to send the code $0C to the printer. The remaining 4 bytes were filled with NOP codes $EA. This change can be done by modifying the bytes directly in the disk sector without changing the program in any other way. However, I decided that while I was at it I might as well cure the RESET problem. This is a more involved change because it means adding 20 hex bytes into the initialisation (first) sector and this in turn means changing the program. The extra bytes save the HATAB address from location $031B/$031C and restore it when RESET is pressed. I detail the method for curing the page heading bug below. If there is any interest, I will send details of the RESET amendment."

Page Heading Change for "Page Six Writer" by H S Wood

(1) Format a blank disk using DOS 2.5 and add the DOS and DUP files. It is essential to use a newly formatted disk because if a mistake is made, you could corrupt other files on the disk, and the sectors will not be in the right place.
(2) Copy the "Page Six Writer" machine code onto the disk under the filename WRITE.CMD
(3) Using a sector editor load in sector $0080 - this is the sector to be changed.
(4) Check bytes 7 to 15($07-$0F) which should be:
20 DC 35 20 DC 35 20 DC 35
If the bytes do not have these values then you are in the wrong sector.
(5) Replace the bytes with:
A9 0C 20 E6 35 EA EA EA EA
(6) Resave the sector and reboot the computer using this new disk. Finally, from DOS load WRITE.CMD and if all is well the program will work normally. It is recommended that you keep this program separately until you are satisfied with it.

A fax from "Mr Micro Discount" himself, Derek Fern, has some answers to questions in issue 62's column:
"For S W Berry, the only method I am aware of to hook up a serial printer with an Atari 8-bit machine is via the 850 interface. The serial port on the 850 gives all the handshaking lines required. But beware - using this set-up can limit the software you use. Some of the more recent DTP packages will only run correctly with a Centronics parallel printer.

In reply to Steve Shearing, for some time Micro Discount combined with Dave Richardson of Rambit, have produced and marketed a modified High Speed tape version of the original AtariWriter. It is not possible to use a spell checker or proof reader with tape based systems because you do not have the random access facility used with a disk drive, you can only read data as it passes the heads. The method to adopt when you have upgraded from tape to a disk system is to load your tape files with the Turbo AtariWriter, then save these out on to a blank tape in standard C: slow speed. Now load your disk version of AtariWriter Plus and load from tape. When loaded you can resave your file to disk or spell check it."

HOME FILING MANAGER

Dave Deeming from Gillingham has some comments on Atari's "Home Filing Manager" utility:
"I wish to extol the virtues of the superb HFM program - I find it so useful for all types of data handling, and I feel that its main benefit lies in its ability to search for a phrase across an entire data disk, and not just within certain fields, as on a conventional database such as MiniOffice II.

To illustrate, supposing you were to keep a diary and wanted to find how many days you had noted that the sun had shone, or that rain occurred (according to whether you are an optimist or a depressive!) - a

diary kept on the HFM would be easily accessible for this data, but how would you organise such information in a diary on a conventional database, via fields? A word processor (like AtariWriter Plus) could obviously be used to keep a diary, but the means of searching the entire disk for a phrase would be very tedious, as it would have to be done file by file.

Now for a couple of questions. Is there any way that HFM can be converted to work in true double density, including the ability to convert all existing single density data disks to double density?

Is there a utility available which will enable cards to be transferred easily from a data disk of one title to one of a different title which already has a number of cards written to it?"

Well, I suspect that it would be possible but long-winded to write some form of patch that would enable HFM to work in true double density. As indicated by my article describing the format of the HFM data records in issue 61, you would need to cater for a larger table to record the start sector number for each data card. Anyone care to take on this as a challenge? As for your second question, I am unaware of a utility to merge HFM files - does anyone know of one? However, I am confident that it would be a relatively straight-forward task to write such a utility program. The information needed is again in my article in issue 61 and good old Atari BASIC (or TurboBASIC) would be quite adequate to do the job.

NEW GAMES FOR THE ATARI CLASSIC

Coming back to Derek Fern's fax I find some information concerning some new games that may be coming our way. Derek continues:

"Over the last few months I have received lots of new software samples from contacts in Holland, Germany and Poland - serious stuff as well as some brilliant games. So far I have not been disappointed with any I have seen! But to get these games over in a form acceptable to U.K. Atari users is very difficult. The producers require a minimum commitment to produce English text versions and if it is a serious program, converting text from a Polish multi-page manual is a big investment in time and money. So it's up to you, the user if you want to see all this new software - do something about it - support the people who are working hard on your behalf to keep costs as low as possible and provide you with software from all over the world.

My own experience with "Last Guardian" and "Tagalon" brought home just how much these games cost to produce. I invested over £500 to obtain the rights to produce these excellent games only to find they are passed around by so called Atari User's. Some of the new releases from Poland such as KULT, CAPTAIN GATHERE and BATTLESHIPS have already hit the pirate circuit, even before I have had a chance to prepare the English version. It may not surprise you that these titles will now be dropped from my future list so the pirates have once again succeeded in depriving the genuine Atari User access to this new software.

The most successful imported software this year without doubt has been "Operation Blood" and the MEGA-Magazine disks. This software contains protection that stops it being copied on Lazers or Happy-equipped drives. All future releases, such as "Operation Blood" for the Light Gun(!), "Chaos Music Composer", stereo sound versions of "Draconus" and "Zybex", and "Brundles" will include this type of protection. But this means that disks cannot be mass produced as each disk is individually protected and this will have some influence on the final retail price.

It always makes me wonder, when I see advertisements in Atari User or Micro Mart for complete set-ups for sale which include 300 plus disk games, how long have these users have been collecting, and how much have they contributed to the downfall of the Atari 8-bit machine. Have you got software in your collection with title screens that include names like ROB C, IAN K, JON C, or THE BURTON BANDIT ? - if you have, it is illegal pirated software! I appreciate that as a producer and distributor of software my views may be regarded as biased, but that view is based on 10 years' experience of the Atari 8-bit scene."

MUSICAL TASTES & SOFTWARE GEMS

Ray Pawson from Muswell Hill, London N10 writes with regard to our Editor's choice of music:

"...I feel on this occasion I must write to say I support his views on Nanci Griffith's new album 'Other Voices, Other Rooms'. It really is an excellent album. I saw Nanci Griffith in concert at the Royal Albert Hall during her current tour and it was well worth the money." Moving on to the Atari Classic, Ray continues, "In 'The Classic PD Zone' Stuart Murray asks why there was never any Atari 8-bit cookbook. You can tell Stuart that there was. It was called "The Celebrity Cookbook" and was published in 1987 by Merrill Ward; it was also issued in ST and Amiga formats. I don't think it was ever imported into the UK. It had a very unusual protection scheme which required the user, on booting up, to enter a three digit security code which would be different each time the program was loaded.

On to a question - is Alan Reeve of Reeve-Soft who gave us DiamondGOS still in business? I'm just wondering if any further applications or even any desk accessories have been developed for use with DiamondGOS?"

Issue 6 of Dean Garraghty's Atari News-Disk included an article by Alan Reeve that appeared on a U.S. BBS, which concluded "... Anyway, we're sold out of Diamond carts and getting more would be rough. We've been in contact with some people about taking over the project with no success. We still offer support as best as we can, but aside from that we're no longer involved in any significant 8-bit development. That's the current state of things."

But is there a group of Diamond users out there somewhere who have produced accessories?

Ray turns to Steve Shearing's issue 62 question about a "word finder", *"...the only program I have been able to find is an anagram solver called 'Anagrammatic' written by Humphrey Walwyn and appeared in 'Sixty Programs for the Atari 400/600XL/800' published in 1984 by Pan Books/Personal Computer News (ISBN 0 330 28481 9) at £5.95. It's not quite what Steve is after, but it's all I could find.*

Finally, does anybody know where I can obtain a copy of SynTrend which was published by Synapse?"

SEEING THE LIGHT

Oliver Harrison from Rotherham, South Yorkshire reports that:

"I have recently acquired a Light Gun at a car boot sale for £4. I also have 'Crossbow' (ace!), 'Crime Buster', 'Bug Hunt' (ugh!) and 'Barnyard Blaster'. Is there any P.D. software which supports the light gun and are there any books which give information about programming the Light Gun? Also, I would recommend that all Light Gun owners take a look at Ke-Soft's catalogue as they market a Light Gun game called 'Geisterschloss'."

Referring back to issue 60, my reply to Christian Delilis gave some information about light pen programming which is essentially the same device as a light gun - see (Old) Atari User Feb. 1988 for an article by Andre Wiley on programming for a Light Gun; and if you can find a copy of "The Creative Atari", this will also help.

NEWS FROM BELGIUM

Freddy van den Heijning writes again from Belgium:

"Thank you very much for publishing my letter. I originally wrote some time ago, so I already knew more about "Manager-3003" (as described in issue 61). I did not know

Mailbag

that there was a utility for the 1029 printer. But did you know that the program also contains a game called "Elevator Repairman"?

There was no reply to my question about a user group in Belgium or the Netherlands. I was disappointed to find that the 8-bit Atari was dying over here, but I will hang on! There is some good news, someone from England wrote to me so I have a new pen pal to swap hints and tips with."

You say you've had no reply about a Belgium or Dutch user group? Well, read on Freddy and get in touch with our next correspondent ...

NOTES FROM THE NETHERLANDS

A lengthy letter from Bill Walraven of P. Lammekensstraat 6, 4827, Cm Breda, The Netherlands contains a number of questions and comments - unfortunately with the full Mailbag this issue, I won't have the chance to cover all of them, so expect more of Bill's comments next issue. In the meantime, Bill starts off by asking:

"Can you publish the address of the Atari club in Spain?"

The only Spanish address I could find in Page 6's Contact file was Stephen Wilds, c/Payesas 30, 07460 Pollena, Mallorca, Spain who has contributed to the magazine in the past. perhaps you should drop him a line? *(I have a feeling that Stephen may now have returned to the UK, or was it the other way round? Ed.)*

Bill also suggests including the German club ABBUC in our Resource File. OK Bill, I would - but you didn't include the full details in your letter! Bill also says that you can write to his address about *"...my club, BRAC, for 8-bitters. We have a hardware section that installed my ramdisk, Q-Meg+printer output, etc. I would be delighted if any Page 6'er if in the region would drop in."*

Bill gives these tips for users of the 1020 Plotter:

"A common malfunction on the 1020 plotter is that a small plastic gear on the metal transport axle splits - I think due to differences in thermal expansion. Prise the gear off, slightly enlarge the central hole until the crack remains closed when mounted. Then using instant glue (cyano compound), put a drop in the crack and on the axis and put the gear on the axle.

You can refill 1020 pens by putting them 'tip up' in hot water (just off the boil) until no more bubbles escape. then quickly dip it 'tip down' in ink (use only water based ink without particulate matter) e.g. Higgins Drawing ink 450444. Also a LDR (light sensor) fitted on the 1020, you can convert it to a scanner and scan pictures."

Innovative Concepts in the States marketed a similar device which would fit on a dot-matrix printer (minus the ribbon) and scan pictures fed through the printer - it was reviewed in the October 1988 issue of ANTIC.

Bill has a question about issue 59:

"...on page 11 of that issue, the TextConverter program is printed with neither elucidation nor copy on the disk. Could you rectify these omissions?"

Looking back at that issue, I note there's not much in the way of description but the listing is a simple demonstration of converting text between upper, lower and inverse characters by using the logical operators to test the input values. The listing is on my copy of the issue 59 disk as file A4CONV.SRC.

Finally (for this issue) Bill notes that complete hard and software instructions for a light pen are included in the book "The Creative Atari". This book reprints most of the "Outpost: Atari" columns and other Atari Classic articles that appeared in "Creative Computing" magazine in the early 1980s. This may help Christian Delilis whose letter appeared in issue 60 and may be useful for Oliver Harrison.

SCROLLS AND SPRITES

Further to D Bennett's question last issue about reading scrolling messages, Avram Dumitrescu from Belfast, Northern Ireland suggests the following:

"To read a scrolling message from a Page 6 magazine disk on an ordinary Graphics 0 screen, enter the following program with the magazine disk in drive 1 (use Control+1 to pause):

```
10 OPEN #1,4,0,"D:INTRO.DAT"
20 GET #1,X: IF X=0 THEN ?" ";: GOTO 20
30 ?CHR$(X+64);: GOTO 20
```

Note the space printed in line 20 and the use of the semi-colons (;) in lines 20 and 30."

Now some requests from Avram:

"I've noticed a trend towards utilities and 'serious' applications in Page 6. Is there a chance of publishing a decent sprite editor that will do the following:

a) create sprites at least 32 lines high,
b) use all 5 sprites (including the missiles),
c) position the players (in any of the 3 sizes and colours) anywhere on the screen to create images wider than 8 bits,
d) include commands like reverse, invert, inverse, etc.,
e) allow multiple images to be created to make animations?

Can New Atari User possibly start a programming column for exotic features of the Atari Classic? Robert Stuart started the ball rolling with his great 'Special FX' columns a while ago. Could 'Special FX' be continued dealing with fancy things like starfields, parallex scrolling, software sprites, etc., i.e. the kind of thing found in demos and games but not usually documented in books or magazines? A column like this could only survive with input from demo writers and game authors - I'm sure there are plenty out there!"

Sounds like some good fodder for future article there. How about it experts?

"Finally, does anyone know how to transfer picture files between the Classic and the ST? I have tried in the past with Taritalk but end up in failure. Any help would be greatly appreciated."

ST DOWN UNDER

Ted Fletcher from Lesmurdie, Western Australia has some ST-related comments:

"I started taking 'New Atari User' just after I got STOS and I find it more relevant to me than the 'glossies'. I read every page and enjoy the 8-bit section. I'm hoping that you will support the ST as you do the Classic when the ST's turn comes to be 'the old machine'. I would like to ask a few questions about STOS:

Have Europress stopped supporting STOS? I was worried about STOS not being so attractive to your mag due to incompatibility with TOS 2,but in ST Format 43 there is a fix for the compiler and it said there was a fix for the interpreter in ST Format 41; will these be available as PD?

What happened to the STOS User Club Newsletter? I'm still owed 5 copies - my last one was 12A. I didn't get any reply from my letter to Aaron Fothergill, and are the editions before number 7 available, maybe on disk?

I think I read that Signa Press have gone out of business - if so, is that mine of information 'The Game Maker's Manual and Real-Time 3D Graphics for the Atari ST' still available? We could do without losing any publications for the ST. Now that STOS 3D has appeared on a cover disk, will you be featuring it?

Just one more thing, a little tip I found out, the ACCNEW ACCLOAD"" on Shift-F7 was no use as it simply loaded up all the accessories that it could from the disk; so I changed it to ACCLOAD" with one set of inverted commas. Now to load say the sprite accessory, press Shift-F7, type in sprite - no need to put in .ACB or the final inverted commas - just press return."*

I'm afraid I'm no ST expert (or even owner), so it's going to be up to Les to answer these ... *(O.K. here goes ... I'm afraid that STOS seems to be dead now, or at least terminally ill, and the STOS column was dropped because it was becoming next to impossible to find new things to write about. Europress are now only pushing the Amiga and it seems unlikely that STOS will receive further support. Sad, but that is the way of the computer world nowadays. Ed.)*

MODERN LANGUAGES

J Ford of Hornchurch, Essex reports that he is *"...trying to use FORTH but am having difficulties. I believe I can manage the Stack and Reverse Polish Notation sufficiently for my purposes, but having made up a screen including a new definition of the word CREATE, when I LOAD the screen I either get 'DEVICE NAK' or 'CREATE not unique' followed by a system crash. The definitions appear correct as they have been accepted individually when typed in directly. I have tried using this on both a 800XL and a 130XE, but get the same results. A further problem is that I have been unable to print out the VLIST, although I did do this a long time ago. The other main problem is what do all the WORDs mean? I have found out that CRLP tells the printer to do a line feed, but what does .LP mean? I should be pleased if someone could throw some light on these problems. I have studied 'Starting Forth' and the instructions on the disk but obviously I am missing something."*

ANALOG magazine issues 13 - 31 featured a FORTH column which may be of assistance if you can find back issues. Maybe there's a reader who can provide a tutorial?

On the subject of languages, I still haven't received a detailed response yet to John Young's issue 61 letter about "Ace C" and is it really usable? However, Daniel Carrodno from Roquebrune sur Argens in France sent me an interesting letter (making excellent use of 'Daisy Dot III'). He writes:
"Is Ace C a bad program? I don't know but I used it to make the patch program I am sending you. The only thing I am sure of is that Ace C doesn't like a modified DOS."
And on the disk Daniel supplied was a utility which runs with Daisy Dot III to automatically copy fonts from floppy to the D8: RAMdisk. Users of the shareware version of DDIII which allows multiple fonts in the same document will recognise how useful this is to speed up processing when DDIII has to read new fonts from disk. So we have someone who has successfully used Ace C and provided a working program. (Incidentally DDIII itself is written in C and Machine Language.)

TAPES AND DISKS

Two questions from B H Saundersof Bracknell, Berkshire:
"Why don't you release more software on cassette because you have a very big PD collection and so many Atari Classic owners don't have disk drives?"

I'm sure Les has answered this question before - basically, when Page 6 has tried selling PD software on cassette before, there has been very little response. This coupled with the cost of producing cassettes (which is done by a specialist firm, not in-house like disk duplicating) means that it has been not been economic to do this.
"Also where can you buy a 'new' disk drive for the Atari Classic. I can not find any shop or advert in New Atari User?"
No new disk drives are available. You'll have to rely on adverts like Derek Fern's Micro Discount in issue 62 for reconditioned drives.

Mr Saunders may be interested in a letter received from David L Wadman of Hove, Sussex. Among his comments, David mentions that *"I am currently starting a mainly tape based magazine 'W.A.M.' (World Atari Magazine) which should be available free by sending a tape and postage to me. When the first issue is ready I will send a copy to New Atari User."*

Good luck with the project David. That does jog my old memory cells a little. Does any Atari old-timer (like me) remember a cassette-based 'magazine' for the Atari 400/800 called 'Network' that was advertised in 1981 or 1982? I think only one issue was ever produced - I might even have my copy stored away somewhere!

DOCUMENT PRINTING

Dennis Fogerty of Salisbury, Wiltshire writes: *"I have been putting Page 6 Library Disk DS#69 NEW DIGITAL EDITOR through its paces and find it an exciting program. It certainly brings Desk Top Publishing to the Atari Classic, although disk swapping does become tiresome. I wonder if any reader has modified it to accomodate two drives? The disk also contains that well known graphics printer driver 'Billboard', which has always been a favourite of mine. However, on this disk 'Billboard' has a bug. Whenever Sideways print is selected from the menu it throws an Error 12 (GOSUB, GOTO or THEN referred to a non-existent line number).*

Anybody who requires the sideways format should List line 1370 and note the last statement, which reads:

```
IF UPR=N2 THEN 18
```

This should be corrected to:

```
IF UPR=N2 THEN 1860
```

and sideways printing will run a treat.

On a different note - could you elaborate in your column on the definition of 'Text File on disk' which appears in your footnote requesting letters. Similarly Les states the same on page 3 concerning submissions. Did you say: 'Not another ignoramus'? I must confess to being just that - on computer matters at least! Please bear with me. This letter has been produced with the aid of TextPro v4.54 and, when saved, I presume it will be a disk text file. But does it appear the same on your screen, especially if you are using a different W/P, say, First Xlent or Protext, etc. I have checked the index of "Your Atari Computer" (which tells me most things) but can find no reference to text files. Maybe there is a different method more suitable. Please let me know. After all, we who bombard you with reams of written words want to make your life as easy as possible."

Well Dennis, thanks for your input, and to the best of my knowledge, all Atari word processors save documents to disk as straight Atari DOS files containing the text you've typed but with their appropriate control commands embedded. *(Speedscript doesn't, so don't use it to send in disks. Ed.).* As a result it is perfectly possible for me to load your TextPro file into PaperClip and view it sensibly on screen. All I've done after loading your file into PaperClip is to go through and edit out the TextPro control commands. In fact, as PaperClip is the word processor that I'm most familiar with but I sometimes require more varied printed format, I will draft a document using PaperClip initially, save the file to disk in PaperClip, then load the file into TextPro and use a TextPro macro to apply formatting commands before saving this file from TextPro and then going to Daisy Dot III to finally print the whole thing! Any Atari word processor should be able to provide me with a usable file. The only exception might be Letter Perfect which I believe uses a custom DOS, but I believe there is even a utility to overcome this (on Page 6 PD Library disk DS83).

FINALLY ...

From Shayne M. Dutton (aged 10), Nantwich, Cheshire:
"I've got an Atari 800XL and I want to know how to program my own game and pictures. So can you please help me."
As you can see, I save the easy ones for last! (At the bottom of the letter, Les has written "Allan - how many pages do you want to reply??")

I'm rapidly running out of room Shayne, but try and get hold of books like 'Your Atari Computer' or 'Easy Programming for Your Atari Micro'. Many recent issues of 'New Atari User' have featured good tutorials like those articles by Ann O'Driscoll, Daniel Lea, Steve Lakey and Ian Finlayson. Don't expect the answer to appear in just one short article - you need to learn and experiment, start small and build up. Don't forget to look at the listings for the games that have appeared in this and other magazines, learn from them and understand how they work ...

And on that note, this is an exhausted Mailbag Editor signing off for another issue!

WHAT ARE YOU WORTH?

Ian Finlayson checks The Home Accountant not a new program but still an excellent buy

It is a great and increasingly rare pleasure to come across a significant new piece of software for the Atari Classic computers, particularly software that is a "serious" application rather than a game. So I am delighted to have the chance to review The Home Accountant by Continental Software.

Although the program is new to me, and probably to all of you as well, I note that it has a copyright date of 1983. Continental Software is not one of the recent European software houses producing Atari programs, but an American company and this program has been available in the USA for about ten years, but has only recently become available over here through Derek Fern at Micro Discount.

FIRST IMPRESSIONS

Like much of the serious (and expensive) software of its day The Home Accountant is professionally packaged. It comes in a boxed ring binder of American type (three holes and approximately A5 size). In the binder is the manual and plastic pockets for the disk and warranty card. It also contains some publicity material about NEBS computer forms. This is relevant as it includes continuous cheque forms and the program has a cheque printing capability.

Do not ignore the manual! Like most of you I like to get straight into a program without reading the instructions, and then complain that it is not user friendly when I get stuck, but with this program I very strongly recommend that you read the manual thoroughly before you start or work through the manual step by step as you set up and start the program.

HARDWARE REQUIRED

The Home Accountant needs a minimum 800/800XL with 48K memory and a single disk drive, also a printer if you want printed output. A 132 column printer is recommended, but 132 columns is available with compressed printing on many 80 column printers and this is quite adequate.

WHAT DOES IT DO?

I thought from the title that this would be a simple program for keeping in touch with your current account and maybe a credit card. It is in fact much more capable than that and can do all of the following:

- Monitor transactions in cash, chequebooks, credit cards, income, expenses and other assets and liabilities
- Track up to 50 budget categories
- Flag items for later recall for tax purposes
- Search for and display transactions by date, cheque number, payee, amount, budget category etc.
- Keep track of up to 5 cheque books with a separate cash account for each
- Handle up to 5 automatic monthly transactions for each cheque book
- Reconcile bank statements
- Print cheques
- Print a variety of reports
- Print bar graphs comparing budget and expenditure, line graphs of expenditure (up to 3 categories), trend analysis graphs
- Calculate net worth

GETTING STARTED

I would normally recommend you to back up your program disk before getting started but with this program it does not work. The programs come on a two sided single density disk which seems to copy OK using the ordinary DOS duplicate disk command. As the programs are written in BASIC I thought the copy would run correctly, but it does not. I expect that a little patient examination of the BASIC code would reveal how the copy protection works so that a back up can be kept, but I have not had time to look. I have an enhanced 1050 disk drive and SpartaDos so it would be nice to take all the programs from both sides of the disk supplied and put them on one side of a double density disk to save some disk swapping, but this would also require some careful examination and modification of the menu structure and relationship between the programs.

No back up of the program disk then, so the next step is to read the manual, follow the instructions and initialise a data disk on which to save your own accounting data. Once that is done I recommend that you work through the manual setting up a dummy set of accounts and make yourself really familiar with the program overall. The manual has a tutorial style which leads you through all aspects of the program. It is quite

thorough but just a bit difficult to understand in places on first acquaintance. If you plunge straight in and try to set up a real set of accounts without an overall feeling for the program you are almost certain to make mistakes which will be rather frustrating.

Once you are familiar with the program you can set up your own budgetary system. It will be useful to have historical data available (old bank statements etc.) so you can make good estimates of budget. I have only had a week to play with the program, and so I am not familiar with all the details, but it does seem to me that the setting-up process is fairly complex. No doubt once you have taken the trouble to set the system up carefully it will be comparatively easy to keep accounts up to date on a regular basis.

OVERALL ASSESSMENT

The programs overall are comprehensive, indeed you can derive a figure which indicates what your overall financial status is (your "net worth") if you complete all parts of the data, but it is this broad capability that also makes the program a little daunting. If all you want is to balance one cheque book the learning curve associated with The Home Accountant may be too steep.

Although it runs competently on a single disk drive the program would run more easily with less disk swapping on a two drive system, but there are very few of us in UK who have the luxury of two drives.

A maximum of 5 automatic transactions which repeat every month seems a bit limiting in these days of direct debits and standing orders, but as the program allows tracking of five checkbooks it should be possible to circumvent the limit by putting some of the recurring payments in "dummy" cheque accounts and thus process up to 25.

It is interesting to see that this complex application is written wholly in Atari Basic - the programs can be listed for analysis and no doubt you could learn a lot from doing so, but they are not commented with helpful REM statements and so could be quite hard to follow.

I do not know what this program cost when it was first issued in the USA, but the current Micro Discount price is £12.00. At this price The Home Accountant is really excellent value. Can you afford not to keep all your financial affairs under control?

THAT'S NEAT!

SOME HANDY HINTS

Andrew C. Thompson presents a handy guide to a few tricks that you might not know about

How often do some of us long-term Atarians take advantage of the Atari's most simple functions? Often? Very often? All the time?

Well, I've just come back from Germany where I was helping my sister get acquainted with her recently purchased Atari and, until then, I never realised just how many seemingly unimportant techniques one needs to know to work the Atari 8-bit. Here is a very simple, yet informative article explaining just some of our Atari's seemingly unimportant tricks. Some you will already now but it's handy having them all together.

CONTROL-1 - *is possibly the most used. It's a pause/unpause toggle for any print being listed on the screen, inside or outside of almost every program, Basic or Machine-code. This can also be simulated in programs with values 255 and 0 POKEd into 767 for screen pause and unpause, respectively.*

CONTROL-2 - *is buzzer sound.*

CONTROL-3 - *causes Error 136. Some Basic programs disable the Break key, but they can still be broken into by pressing this key when the program is awaiting an input. To prevent this, the input must be TRAPped.*

SHIFT-TAB - *can be used to set a tab anywhere across a text-line. Useful when editing Basic/assembly programs.*

CONTROL-TAB - *will clear the tab set with the shift-tab.*

BREAK-KEY - *can be disabled by POKE 16,64 and POKE 53774,64.*

LISTING - *Listing of Basic programs can be prevented by adding a POKE 202,1 within the program itself. This way, if the program was to be broken into, it would be automatically erased.*

RESET-KEY - *can be TRAPped with POKE 2,52, POKE 3,185 and POKE 9,2. When Reset is pressed an error will occur, thus, the Basic program can TRAP Reset to any line. All the POKES and the TRAP must be set up each time Reset is pressed. It can also be forced to coldstart the computer with a value of 1 POKEd to location 580. Poke with zero to revert to normal.*

WARMSTART - *can be done with X=USR(58484). Otherwise known as pressing Reset.*

COLDSTART - *can be done with X=USR(58487). Otherwise known as turning the computer off and on.*

BYE - *in Basic can also be achieved with X=USR(58481).*

LEFT MARGIN - *can be changed by location 82. A value 0 is useful when typing in program listings, whereby all the screen columns are accessible, giving an extra 6 bytes to each program line.*

RIGHT MARGIN - *is changed at location 83. Similar to - Left margin.*

INPUT/OUTPUT - *through the cassette or disk-drive can be made silent with a POKE 65,0. POKE with non-zero to turn it back on.*

DISKS - *can have data written to both sides by notching an identical hole on the opposite side of the disk. Believe it or not, I have written letters to several people who never knew about this.*

MUSIC - *can be played from the cassette unit and through the TV speaker with a POKE 54018,52. A value of 60 will turn it off. My music system tends to wake everyone up, so this is a good resort when programming in the early hours of the morning.*

SCREEN - *display width can be altered to narrow, standard or wide with values 33, 34 and 35 respectively POKEd to location 559.*

CAPS-LOCK - *can be turned on or off with values 64 and 0 put at location 702. Control-lock can be forced with a value of 128.*

TEXT - *can be opaque, inversed and turned upside down with various values POKEd to location 755. It can also be forced in inverse mode with POKE 694,128 and reversed with a value of 0.*

CHARACTER-SET - *can be chosen at location 756. Value 224 is standard. Poking with 204 gives international characters under the control-key presses. Non-capitals are also obtainable on graphics 1 with a poke value of 226.*

ESCAPE - *characters, such as the arrows, can either be acted upon or displayed on the screen with values 0 and any non-zero value POKEd into location 766.*

CURSOR - *can be be turned invisible with a non-zero value POKEd to 752, and returned to normal with 0.*

KEYBOARD - *keys can be detected by peeking location 764. A value of 255 means no key has been pressed, other values are particular keys. These values tend to be a total mix-up, though on XL's they can be converted to ASCII equivalents by taking the PEEKed value of address PEEK(121)+256*PEEK(122)+PEEK(764).*

SCREEN - *vertical adjustment can be performed by changing the value in location 560 between 9 and 31. An explosion effect can be achieved in a game by poking random values between this range successively.*

PRINT - *all output that normally goes to the screen can be sent to the printer with POKE 838,166 and POKE 839,238. Return to normal with POKE 838,163 and POKE 839,246. On the XL, the 4 values are 202, 254, 175 and 242 in the above order, respectively.*

continued

Odds & Ends

MYSTERY MAN REVEALED

You may recall the review of Video Title Shop from the last issue which was uncredited. Well the author has come forward and is Chris Thorley stationed in RAF Bruggen. Chris has offered to do a follow up article on using Video Title Shop - what do you think?

SOFTWARE FROM GERMANY

Chris Thorley - see above - has also offered help in obtaining software from Germany where the Atari Classic is still well supported. If you get in touch with him. Chris will purchase any software you want locally and you can pay him in sterling taking all the pain out of buying in foreign currencies. You can get in touch with Chris at 31 SQN, RAF BRUGGEN, BFPO 25

LEAGUE ORGANISER

You may recall a letter from Ed Hall some time ago asking if anyone could program a league organiser for different sports. Well we had one or two submitted - and thanks for those - but have now received a super version from Adrian Hyland which seems to cover everything any organiser could want. The program is accompanied by very full documentation on the disk. Because of the size and nature of the program it is not suitable for publication in the magazine and is, perhaps, too specialised for a Bonus so we have included the program in our PD library as a special. If you organise any kind of league - football, squash, darts, chess etc. - check it out, it is well worth a look.

THAT'S NEAT!

FINE SCROLL - *can be enabled at location 622 with a value of 255. Disabled with 0. Try enabling, calling Graphics 0 and listing a long program.*

KEYBOARD - *can be disabled with a POKE 621,255. It can be enabled with a value of 0.*

INITIAL KEY DELAY - *is at location 729. 0 for no repeat, 1 for fast and 255 for very slow. XL only.*

KEY REPEAT RATE - *is at 730. Similar to 729 except for all repeats after the initial keypress. XL only.*

KEY CLICK - *is at location 731. 0 means sound on and 1 is off. XL only.*

HELP-KEY - *can be found at memory location 732. A value of 17 means help is pressed, 81 means shift and help whilst 145 means control and help. I have actually had a value of 209 in this register. XL only.*

CONSOLE-KEYS - *can be found at location 53279. A value of 3 means Option is pressed, 5 means Select and 6 means Start. Multiple combinations can be detected also.*

RANDOM - *numbers between 0 and 255 can easily be obtained by peeking location 53770.*

MEMORY - *can be cleared from Basic, at the speed of machine-code, by using locations 88, 89 and 106 in conjunction with the screen clear function. Just set 88 and 89 to the LSB and MSB start address, and set 106 to the MSB end address. Then, when a Basic clear function is issued, all this memory will be zeroed. This is especially useful for clearing PMG's or strings.*

BASIC - *can be switched off with POKE 1016,1. Pressing reset will boot DOS.*

DOS - *access can be disabled from Basic by changing locations 10 and 11. Try POKEing 10 with 203, 11 with 0 and 203 with 96.*

VERIFY - *can be turned off when using DOS by POKEing 1913 with 80. A value of 87 turns it back on. Note that all DOS alterations will only remain permanent when a new DOS has been written to a blank disk.*

WILDCARD - *asterisk (*) can be altered by putting the new wildcard ASCII code at location 3783.*

FILENAME - *character range can be altered to accept punctuation, numbers and non-caps with POKE 3818,33 and POKE 3822,123.*

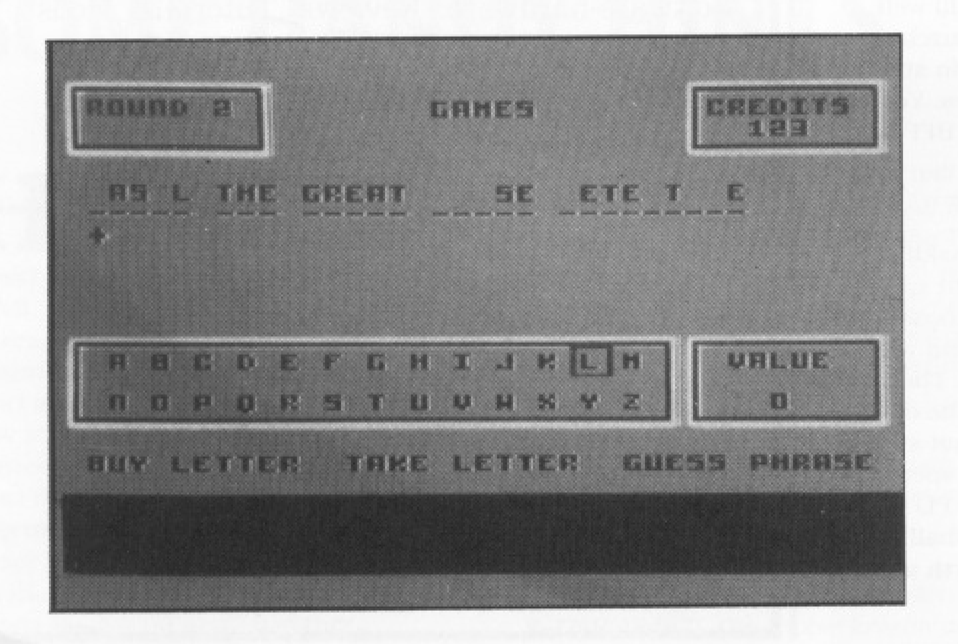
DUP - *can be called up with X=USR(6518) if it has previously been called from Basic. Note that this is very fast, but is not always reliable.*

AUTORUN FILES - *can be prevented from loading when a DOS disk is booted, by successively pressing break when you hear - pips - through the TV speaker. If READY does not appear then press Reset.*

REVISION DATE - *of your Atari is in day, month and year order, and is at locations 49154-49156.*

Well now, don't forget, if there are any other little tricks that you think should be known then send them in to the magazine - perhaps to the Mailbag section - we may even get enough for another article.
Could this be the start of a replacement for Mapping The Atari!!!

BUY WORD



by

Ann O'Driscoll

Buy Word is a simple word game based on the "hangman" concept. Words or phrases - such as television programmes, film titles, famous quotations or whatever - are loaded in from disk or cassette and you must guess what they are by picking letters to fill in the dashes. You get 200 credits to start and you can use these to buy letters.Frequently used letters like "A" and "E" are expensive, while less common ones like "J" and "Z" are cheap. You may also take letters for free and place them at specific positions in the word/phrase, or you may try and guess the whole answer in one go. You gain credits for correct guesses, but points are deducted if you are wrong. The game ends after 12 rounds, provided you have enough credits to last that long.

PLAYING A GAME

The round number, the amount of credits and, for disk users, the name of the word file, are shown at the top of the game screen. The secret phrase is shown as a series of dashes, with each dash indicating a missing letter. The letters appear at the end of the screen along with the available options - buy a letter, take a letter or guess the phrase. To select an option, move the joystick left or right and press fire over the highlighted choice.

When you pick the BUY LETTER option, you must select the letter you want with the joystick. A PMG "square" highlights the different letters and the price of each one is shown in a value box as it is highlighted. If you choose correctly the letter is inserted wherever it occurs in the phrase. Once a letter is bought its cost is deducted from your credits and its value goes to 0 for the rest of the round.

You select letters in a similar fashion for the TAKE LETTER option. This time, however, you have to nominate the exact position of the letter too. Move a "cross" under the dashes with the joystick and press fire at the chosen place. For instance, if one of your words was "TH-" you might chance putting an "E" after the H. Your score goes up by twice the value of the letter if you guess correctly, 5 points are deducted if you are wrong.

You may pick the GUESS PHRASE option at any stage in the round. The cross moves under each missing letter and you type in your guess for that position. You get 50 points plus 5 points for every correctly typed letter if you are right. If you are wrong your score goes down by 50 points, the word/phrase is shown in full and the game moves on to the next round.

The game ends if you become bankrupt, or after 12 rounds of play. At that stage you can quit or have another go. With the play again option you may either use the same word file or load another one in from disk or cassette.

MAKING A WORDFILE

There are 15 records in each word file and 12 of these are chosen randomly for each game. Records should be in capital letters only and each can be up to 32 characters long. You just input the records one after the other, pressing RETURN after each one. The records are saved after the last one has been entered. Disk users are prompted to give a filename to the records and this is automatically given the extender ".WRD". Once a file is created, you may either play a game with it, make another file or quit the program.

BUY WORD

```
QK 1 REM ******************************
VJ 2 REM *          BUY WORD          *
OH 3 REM *      by Ann O'Driscoll     *
IY 4 REM * -------------------------- *
FN 5 REM * NEW ATARI USER - AUG 1993 *
QP 6 REM ******************************
NM 7 REM
HQ 30 NR=15:LR=32:LL=37:PX0=55:PY0=134:HP
   0=53248:NB=152:PMB=NB-8:POKE 106,PMB-1
   :PMBASE=PMB*256:RAMB=NB*256
UZ 40 MES=500:SCRN=540:FNAM=600:CLOSE #3:
   OPEN #3,4,0,"K:"
BR 50 DIM REC$(NR*LR),F(NR),A$(LR),B$(LR)
   ,BL$(LL),LV(26),OP$(LL*3+3),M$(LL),L$(
   1),FILE$(14),MC$(34)
FF 60 BL$(1)=" ":BL$(LL)=" ":BL$(2)=BL$
OP 70 OP$="BUY LETTER  TAKE LETTER  GUESS
    PHRASEBUY LETTER  TAKE LETTER  GUESS
   PHRASE"
CA 75 OP$(LEN(OP$)+1)="BUY LETTER  TAKE L
   ETTER  GUESS PHRASE":GOTO 1000
LT 499 REM  SUBROUTINES  500 - 950
OB 500 POSITION 1,21:? M$:SOUND 0,P,10,12
   :FOR D=1 TO 30:NEXT D:SOUND 0,0,0,0
EJ 510 FOR D=1 TO 400:NEXT D:POSITION 1,2
   1:? BL$:RETURN
YM 540 GRAPHICS 0:DL=PEEK(560)+256*PEEK(5
   61):POKE DL+6,6:POKE DL+7,7:POKE 710,0
   :POKE 709,28:POKE 752,1
ST 550 POKE 16,64:POKE 53774,64:POKE 82,0
   :POKE 83,39:RETURN
FA 600 ? CHR$(125);:POSITION 0,1:? M$:? :
   ? :IF FILE$="D:" THEN 630
GK 610 ? "• INSERT TAPE":? :? "• PRESS PL
   AY":IF M$(1,1)="s" THEN ? "  AND RECOR
   D"
HI 620 ? :? "• PRESS RETURN ON COMPUTER":
   GOTO 720
XO 630 IF M$(1,1)="l" THEN 660
YR 640 POSITION 0,5:? BL$:POSITION 0,5:?
   "INPUT FILENAME:- ":? :? FILE$;:INPUT
   A$:IF A$="" OR LEN(A$)>8 THEN 640
MG 650 FILE$(3)=A$:GOTO 710
PU 660 CLOSE #2:OPEN #2,6,0,"D:*.WRD":POS
   ITION 0,3:? "READING DISK DIRECTORY...
   ":DIR=-1
RI 665 POSITION 0,6:? "• PRESS  SPACE  TO
    SEE THE NEXT FILE":POSITION 0,8:? "•
   PRESS  RETURN  TO PICK A FILE"
EH 670 INPUT #2,A$:DIR=DIR+1:IF LEN(A$)<1
   7 THEN LN=660:GOTO 930
PA 680 POSITION 0,12:? " FILENAME  ";A$(
   3,10):GET #3,K:ON K=155 GOTO 690:ON K=
   32 GOTO 670:GOTO 680
QQ 690 FOR N=3 TO 10:IF A$(N,N)=" " THEN
   FILE$(3)=A$(3,N-1):POP :GOTO 710
RD 700 NEXT N:FILE$(3)=A$(3,10)
IO 710 FILE$(LEN(FILE$)+1)=".WRD"
BP 720 CLOSE #1:OPEN #1,IO,0,FILE$:RETURN
LE 920 POSITION 0,18:? "ERROR ";PEEK(195
   );" at LINE ";PEEK(186)+256*PEEK(187);
   " !! Press a key":GOTO 950
RL 930 POSITION 0,18:? "Number of files f
   ound = ";DIR:? "Put in another disk an
   d press a key"
OA 940 POSITION 0,12:? BL$
TN 950 GET #3,K:CLOSE #1:CLOSE #2:POSITIO
   N 0,18:? BL$:? BL$:GOTO LN
EB 999 REM  INTRODUCTION   1000 - 1160
GC 1000 GOSUB SCRN:POSITION 14,0:? "Prese
   nting":POSITION 23,1:? "b u y  w o r d
   ":?
PL 1010 ? " You must try to work out the
   hidden    words which appear on the sc
   reen as a"
AV 1020 ? "series of dashes: Each dash in
   dicates a missing letter.":?
NF 1030 ? "You get 200 credits to start o
   ff and youcan use these to buy letters
   , which cost";
QQ 1040 ? "different amounts. You may als
   o take     letters for free and try to
   position"
RM 1050 ? "them correctly in the word, or
    you can  guess the whole answer. You
   gain credits";
SA 1060 ? "for correct guesses but there
   are        penalties if you get it wron
   g. The aim"
NK 1070 ? "is to gain as many points as p
   ossible.  The game ends if you run out
    of credits"
OS 1080 ? "(you lose) or after 12 rounds
   of play."
RH 1110 POSITION 0,21:? " START  LOAD FIL
   E    OPTION  MAKE FILE"
PQ 1120 IF PEEK(53279)<>6 AND PEEK(53279)
   <>3 THEN 1120
UY 1130 M$="load word file":IF PEEK(53279
   )=3 THEN M$(1,4)="make"
BV 1140 POSITION 0,21:? "  CASSETTE  PRES
   S C       DISK  PRESS D "
MU 1150 GET #3,K:IF K<>67 AND K<>68 THEN
   1150
KH 1160 FILE$=CHR$(K):FILE$(2,2)=":":IF M
   $(1,1)="l" THEN 3000
YP 1999 REM  MAKE AND SAVE  2000 - 2250
AF 2000 ? CHR$(125);:POSITION 22,1:? M$:?
   :?
SZ 2010 ? "• You must input 15 words or p
   hrases.":? :? "• Each can be up to 32
   characters long.":?
VX 2020 ? "• Use capital letters only":?
   :? "• Press RETURN after each entry.":
   ? "↓↓↓• Press  START  to begin."
RG 2030 IF PEEK(53279)<>6 THEN 2030
XI 2040 ? CHR$(125);:REC$(1)=" ":REC$(NR*
   LR)=" ":REC$(2)=REC$:POSITION 0,1:? "i
   nput records"
VS 2050 FOR N=1 TO NR
XS 2060 POSITION 0,3+N:? "[";N;"] ";
ZF 2070 INPUT A$:IF A$="" THEN 2060
ZM 2080 REC$(LR*(N-1)+1,LR*(N-1)+LEN(A$))
   =A$:A$="":NEXT N
QK 2100 LN=2100:TRAP 920:IO=8:M$(1,3)="sa
   v":GOSUB FNAM
XC 2110 FOR N=1 TO NR:A$=REC$(LR*(N-1)+1,
   LR*N):? #1;A$:NEXT N:CLOSE #1
UU 2200 ? CHR$(125);:POSITION 22,1:? "FIL
   E SAVED"
BP 2210 POSITION 0,5:? "Press  START  to
   play with this file":? :? "Press  OPTI
   ON  to make another file"
KZ 2220 ? :? "Press  ESC  to quit":POKE 7
   64,255
VQ 2230 IF PEEK(764)<>28 AND PEEK(53279)<
   >6 AND PEEK(53279)<>3 THEN 2230
NE 2240 ON PEEK(764)=28 GOTO 5200:ON PEEK
   (53279)=6 GOTO 4020
UC 2250 FILE$=FILE$(1,2):GOTO 2040
EU 2999 REM  SET UP AND LOAD 3000-4140
VX 3000 POSITION 0,21:? "      PLEASE WAI
   T  a minute....      ":FOR N=0 TO 255:
   POKE PMBASE+1024+N,0:NEXT N
DM 3010 RESTORE 3020:FOR N=0 TO 11:READ D
   :POKE PMBASE+N,D:NEXT N:FOR N=0 TO 11:
   READ D:POKE PMBASE+20+N,D:NEXT N
TB 3020 DATA 255,129,129,129,129,129,129,
   129,129,129,129,255,0,0,0,0,0,0,0,0,
   0,0,0
KC 3030 RESTORE 6000:FOR N=0 TO 86:READ D
   :POKE 1536+N,D:NEXT N
XK 3040 FOR N=1 TO 34:READ D:MC$(N,N)=CHR
```

continued

BUY WORD

```
   $(D):NEXT N:M=USR(ADR(MC$),RAMB)
WO 3050 FOR N=1 TO 46*8:READ D:POKE RAMB+
   16*8-1+N,D:POSITION 31,21:? INT(46-N/8
   );" ";:NEXT N
ML 4000 LN=4000:TRAP 920:IO=4:GOSUB FNAM:
   FOR N=1 TO NR:INPUT #1;A$:REC$(LR*(N-1
   )+1,LR*N)=A$:NEXT N:CLOSE #1
KQ 4020 PP=PEEK(559):POKE 559,0:GRAPHICS
   0:POKE 82,0:POKE 752,1:DL=PEEK(560)+25
   6*PEEK(561)
TE 4030 POKE DL+3,PEEK(DL+3)+2:FOR N=6 TO
    24:POKE DL+N,PEEK(DL+N)+2:NEXT N
QQ 4040 POKE 708,144:POKE 709,124:POKE 71
   0,0:POKE 711,52:POKE 712,26:POKE 756,N
   B
JT 4050 FOR N=0 TO 29 STEP 29:POSITION N,
   0:? ">::::::::e":POSITION N,1:? "[
         |"
YO 4060 POSITION N,2:? "[          |":POSIT
   ION N,3:? "<;;;;;;;;=":NEXT N:LF=LEN(F
   ILE$)
KF 4070 POSITION 1,1:? "ROUND":POSITION 3
   0,1:? "CREDITS":IF LF>2 THEN POSITION
   19-INT((LF-6)/2),1:? FILE$(3,LF-4)
VM 4080 POSITION 0,12:? ">::::::::::::::::
   ::::::::::::::e>::::::::e"
UJ 4090 POSITION 0,13:? "[ A B C D E F G
   H I J K L M |[ VALUE  |"
FD 4100 POSITION 0,14:? "[
                |[          |"
TY 4110 POSITION 0,15:? "[ N O P Q R S T
   U V W X Y Z |[          |"
IT 4120 POSITION 0,16:? "<;;;;;;;;;;;;;;;;
   ;;;;;;;;;;;;;=<;;;;;;;;=" 
GI 4130 FOR N=1 TO NR:F(N)=0:NEXT N:XO=1:
   POSITION 1,18:? OP$(XO,LL):AM=200:POKE
    559,PP
MP 4140 POKE 704,228:POKE 53286,0:POKE 55
   9,58:POKE 53277,2:POKE 623,1:POKE 5427
   9,PMB
VE 4199 REM  PLAY LOOP  4200 - 5000
BN 4200 FOR ROUND=1 TO 12:POSITION 7,1:?
   ROUND:POSITION 32,2:? AM;"  "
BK 4210 RESTORE 4220:FOR N=1 TO 26:READ L
   :LV(N)=L:NEXT N
WP 4220 DATA 8,4,5,6,9,3,7,3,8,1,3,6,6,6,
   7,5,3,6,7,7,7,2,3,2,2,1
RM 4230 Q=INT(RND(0)*NR+1):IF F(Q)<>0 THE
   N 4230
FD 4240 F(Q)=1:A$=REC$(LR*(Q-1)+1,LR*Q):B
   $(1)=" ":B$(LEN(A$))=" ":B$(2)=B$
AB 4250 POSITION 1,6:FOR N=1 TO LEN(A$):I
   F A$(N,N)<>" " THEN ? "\";:GOTO 4270
EJ 4260 ? " ";
GG 4270 NEXT N:P=15:M$="▸USE JOYSTICK TO
   SELECT":GOSUB MES
UV 4299 REM  SELECT OPTION
YH 4300 IF  NOT STRIG(0) THEN 4350
ZB 4310 S=STICK(0):IF S=15 THEN 4300
PC 4320 XO=XO+LL*(S=7 AND XO<75)-LL*(S=11
    AND XO>LL)
AE 4330 POSITION 1,18:? OP$(XO,XO+LL-1):F
   OR N=1 TO 4:SOUND 0,20,10,8:FOR D=1 TO
    5:NEXT D:SOUND 0,0,0,0
PH 4340 NEXT N:GOTO 4300
NH 4350 IF XO=75 THEN 4900
QN 4360 M$="USE JOYSTICK TO PICK A LETTER
   ":P=15:IF XO=1 AND AM=0 THEN M$="YOU H
   AVE NO MONEY TO BUY":P=80
GI 4370 GOSUB MES:IF P=80 THEN 4300
PD 4399 REM  MOVE AROUND THE LETTERS
UV 4400 IF  NOT STRIG(0) THEN 4500
GM 4410 S=STICK(0):IF S=15 THEN 4450
RZ 4420 X=USR(1536,PMBASE+20,PMBASE+1024+
   PY0,12)
DB 4430 PX0=PX0+8*(S>4 AND S<8 AND PX0<14
   9)-8*(S>8 AND S<12 AND PX0>55)
OU 4440 PY0=PY0+16*(S=13 AND PY0<150)-16*
   (S=14 AND PY0>134)
MZ 4450 X=USR(1536,PMBASE,PMBASE+1024+PY0
   ,12)
KZ 4460 POKE HP0,PX0:X=(PX0-55)/8+1:IF PY
   0=150 THEN X=X+13
OU 4470 POSITION 33,15:? LV(X)
RA 4480 GOTO 4400
RU 4499 REM  LETTER PICKED OUT
GC 4500 IF LV(X)=0 THEN M$="THAT ONE HAS
   BEEN PICKED ALREADY":P=80:GOSUB MES:GO
   TO 4300
ME 4510 IF XO<>1 THEN 4700
LF 4599 REM  --- BUY A LETTER ---
QL 4600 BU=0:IF LV(X)>AM THEN M$="YOU CAN
   'T AFFORD THAT ONE.":P=80:GOTO 4660
QL 4610 AM=AM-LV(X):LV(X)=0:POSITION 32,2
   :? AM;"  ":L$=CHR$(X+64):FOR N=1 TO LE
   N(A$)
VN 4620 IF A$(N,N)=L$ THEN BU=1:POSITION
   N,5:? L$:SOUND 0,60,10,12:FOR D=1 TO 2
   0:NEXT D:SOUND 0,0,0,0:B$(N,N)=L$
IC 4630 NEXT N:P=15:M$="WELL DONE":IF BU=
   0 THEN M$="YOU'RE OUT OF LUCK THIS TIM
   E":P=80
IX 4640 POSITION 33,15:? LV(X):IF B$=A$ T
   HEN 4980
LL 4660 GOSUB MES:GOTO 4300
LO 4699 REM  --- TAKE A LETTER ---
AK 4700 XL=0:POSITION XL,7:? " ] ":M$="▸P
   LACE THE LETTER":P=15:GOSUB MES
YN 4710 IF  NOT STRIG(0) THEN 4800
FM 4720 S=STICK(0):IF S=15 THEN 4710
FJ 4730 XL=XL+1*(S=7 AND XL<LEN(A$)-1)-1*
   (S=11 AND XL>0)
AU 4740 POSITION XL,7:? " ] ":SOUND 0,20,
   10,8:FOR D=1 TO 10:NEXT D:SOUND 0,0,0,
   0
SU 4750 GOTO 4710
NH 4800 A=XL+1:L$=CHR$(64+X)
FD 4810 IF A$(A,A)=L$ THEN POSITION A,5:?
    L$:AM=AM+2*LV(X):B$(A,A)=L$:M$="GOOD
   GUESS!":P=15:GOTO 4840
EW 4820 IF A$(A,A)=" " OR B$(A,A)<>" " TH
   EN M$="YOU CAN'T PUT IT THERE!":P=80:G
   OSUB MES:GOTO 4710
HB 4830 M$="WRONG! 5 POINTS DEDUCTED":P=8
   0:AM=AM-5:IF AM<0 THEN 4970
CN 4840 POSITION 32,2:? AM;"  ":IF A$=B$
   THEN 4980
FM 4850 GOSUB MES:POSITION XL+1,7:? " ":G
   OTO 4300
LG 4899 REM  --- GUESS THE PHRASE ---
QQ 4900 GU=0:P=15:M$="TYPE IN THE MISSING
    LETTERS":GOSUB MES
LK 4910 FOR N=1 TO LEN(A$):IF A$(N,N)=" "
    OR B$(N,N)<>" " THEN 4950
AJ 4920 POSITION N,7:? "]":POKE 764,255
HT 4930 GET #3,K:IF K<65 OR K>90 THEN 493
   0
EV 4940 L$=CHR$(K):B$(N,N)=L$:POSITION N,
   5:? L$:POSITION N,7:? " ":GU=GU+1
PL 4950 NEXT N:IF B$=A$ THEN AM=AM+50+(GU
   *5):GOTO 4980
ZF 4959 REM --- GET IT WRONG ---
DD 4960 AM=AM-50:POSITION 1,9:? A$:M$="YO
   U'RE WRONG":P=80:IF AM>0 THEN 4990
YC 4970 M$="  YOU ARE BANKRUPT":POSITION
   32,2:? "0  ":P=80:GOSUB MES:POP :GOTO
    5100
NR 4979 REM --- GET IT RIGHT ---
QS 4980 P=15:M$="YOU'VE CRACKED IT!"
FK 4990 GOSUB MES:POSITION 32,2:? AM;"  "
   :FOR N=4 TO 9:POSITION 1,N:? BL$:NEXT
   N
MT 5000 NEXT ROUND
LU 5029 REM  GAME OVER  5030 - 5200
```

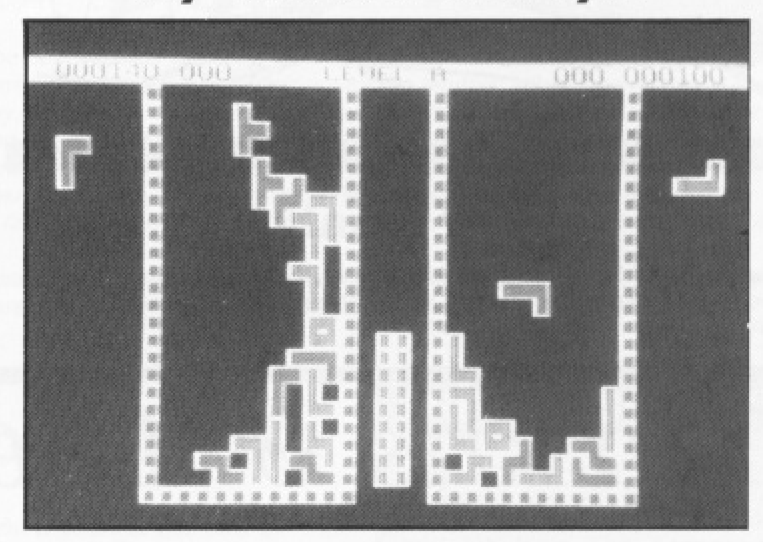
BUY WORD

```
UC 5030 AM=AM-200:M$="YOU GAINED ":IF AM<
   0 THEN M$=" YOU LOST ":AM=ABS(AM)
OW 5040 M$(LEN(M$)+1)=STR$(AM):M$(LEN(M$)
   +1)=" POINTS"
JS 5050 RESTORE 5060:FOR N=1 TO 6:READ A:
   SOUND 0,A,10,8:FOR NN=1 TO 10:NEXT NN:
   SOUND 0,0,0,0:NEXT N
LM 5060 DATA 72,64,60,72,64,72
EB 5100 FOR N=5 TO 11:POSITION 0,N:? BL$:
   NEXT N:POSITION 15,5:? "GAME OVER"
YY 5110 POKE 53277,0:POKE 623,4:POKE 704,
   0:POKE 764,255
FR 5120 POSITION 9,8:? M$:POSITION 11,21:
   ? "PLAY AGAIN (Y/N)?":GOSUB 5170:IF K=
   78 THEN 5200
AT 5130 POSITION 6,21:? "USE THE SAME FIL
   E (Y/N)?":GOSUB 5170:IF K=89 THEN 4020
GG 5140 M$="load a file":FILE$=FILE$(1,2)
   :GOSUB SCRN:GOTO 4000
BP 5170 GET #3,K:IF K<>78 AND K<>89 THEN
   5170
CH 5180 POKE 764,255:RETURN
HZ 5200 GRAPHICS 0:POKE 82,2:POKE 752,0:C
   LR :END
YF 5999 REM   PMG M/C DATA
QV 6000 DATA 104,201,3,208,81,104,133,225
   ,104,133,224,104,133,227,104,133,226,1
   04,133,229,104,133,228,169,0
OS 6010 DATA 133,230,133,231,168,177,224,
   145,226,24,169,1,101,224,133,224,169,0
   ,101,225,133,225,24,169,1
RU 6020 DATA 101,226,133,226,169,0,101,22
   7,133,227,24,169,1,101,230,133,230,169
   ,0,101,231,133,231,24,165
BE 6030 DATA 228,197,230,208,206,165,229,
   197,231,208,200,96
FD 6999 REM   CHAR SET M/C DATA
QY 7000 DATA 104,104,133,207,104,133,206,
   169,0,133,204,169,224,133,205,162,4,16
   0,0,177
LR 7010 DATA 204,145,206,136,208,249,230,
   205,230,207,202,208,242,96
YV 8999 REM   ANTIC 4 CHARACTER DATA
LC 9000 DATA 0,63,51,51,51,51,63,0,0,12,6
   0,12,12,12,63,0,0,63,51,3,63,48,63,0,0
   ,63,3,3,63,3,63,0
XV 9010 DATA 0,48,48,48,51,63,3,0,0,63,48
   ,63,3,51,63,0,0,63,48,63,51,51,63,0,0,
   63,3,3,3,3,3,0
UR 9020 DATA 0,63,51,63,51,51,63,0,0,63,5
   1,63,3,3,63,0
GT 9030 DATA 0,0,170,170,85,85,0,0,0,0,85
   ,85,170,170,0,0,36,36,37,37,42,42,0,0,
   24,24,88,88,168,168,0,0
JD 9040 DATA 0,0,42,42,37,37,36,36,0,63,3
   ,15,12,12,0,12,0,0,168,168,88,88,24,24
EO 9050 DATA 0,63,51,51,63,51,51,0,0,63,5
   1,63,51,51,63,0,0,63,51,48,48,51,63,0,
   0,60,51,51,51,51,60,0
IY 9060 DATA 0,63,48,60,48,48,63,0,0,63,4
   8,60,48,48,48,0,0,63,48,48,51,51,63,0,
   0,51,51,63,51,51,51,0
FA 9070 DATA 0,63,12,12,12,12,63,0,0,3,3,
   3,3,51,63,0,0,51,51,63,60,51,51,0,0,48
   ,48,48,48,48,63,0
AR 9080 DATA 0,51,63,63,51,51,51,0,0,63,5
   1,51,51,51,51,0,0,63,51,51,51,51,63,0,
   0,63,51,51,63,48,48,0
OV 9090 DATA 0,63,51,51,51,51,63,12,0,63,
   51,51,60,51,51,0,0,63,48,63,3,3,63,0,0
   ,63,12,12,12,12,12,0
KT 9100 DATA 0,51,51,51,51,51,63,0,0,51,5
   1,51,51,63,12,0,0,51,51,51,63,63,51,0,
   0,51,51,60,15,51,51,0
XH 9110 DATA 0,51,51,63,12,12,12,0,0,63,3
   ,12,12,48,63,0,36,36,36,36,36,36,36,36
   ,0,0,0,21,0,0,0,0
JA 9120 DATA 0,4,4,21,21,4,4,0
```

DISK BONUS

ATARTRIS II

by Steve Budrys



QUITE POSSIBLY THE BEST VERSION OF TETRIS EVER!

You know the game but check these features

- 1 or 2 players or 2 players in cooperation
- Single pieces or multiple pieces
- Choose how the pieces rotate - All, Most, Some, Few or, for the ultimate challenge, None!
- Alignment guide on or off
- Start at any level from A to Z
- Preview 1 piece, 4 pieces or none
- Rotate clockwise or anti-clockwise
- High Score Table and Save

NO version of Tetris has ever had this many features before - and this great game is the BONUS on this issue's disk.

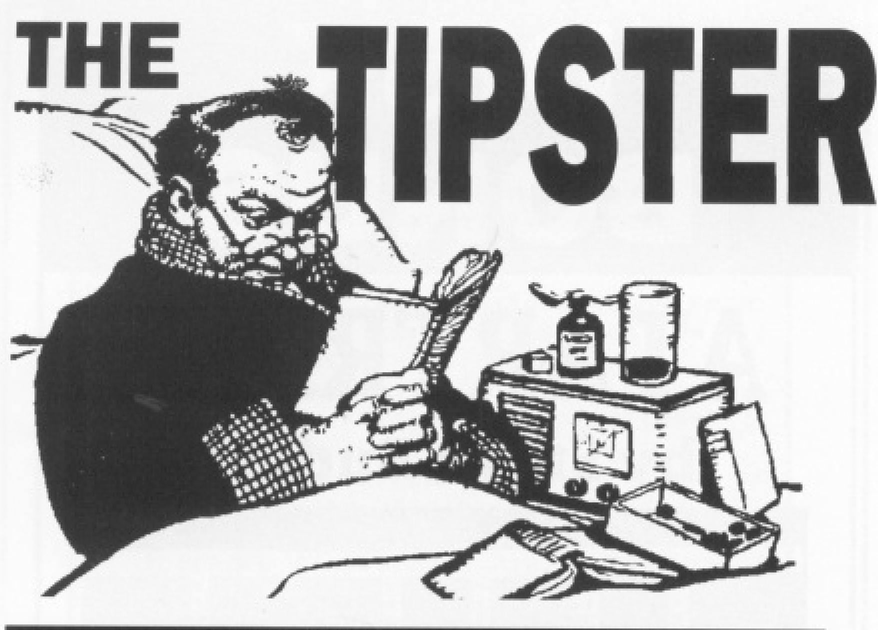
And you also get ...

FORTRESS

A shareware version of the arcade Tetris designed and programmed by Zark Wizard!

If you want to try an alternate version of the arcade classic, here's your chance - one of these great games is sure to become your favourite!

ATARTRIS II and FORTRESS are the BONUS programs on the Issue 63 disk. Disk subscribers will receive their copy with the magazine but the Issue 63 disk is also available separately for just £2.95. Order your copy from PAGE 6, P.O. Box 54, Stafford, ST16 1DR or by phone to 0785 213928 using your Access, Visa or Switch card.



A very small tip

David Moss of Dorchester gives us this tip for MEDIATOR. If you put a weight on the space bar then you will slow the game down enough for you to progress to at least the fourth level.

ROBOTECH RULES!

Another issue another column, this one is going to be much smaller than usual but that doesn't matter as the tips are still top class.

Coming your way next time will be hints on Zero Wars, and Tail of Beta Lyrae but this time we have the complete solution to Tarkus and the Crystal of Fear and some cracking stuff on Mission Zircon

Crashing headlong into the deluge of epistles from you tippers we now have the following to offer you for your delectation and delight.

Tarkus & The Crystal of Fear

We have received this time a mammoth collection of tips, the likes of which haven't been seen between these covers for many months. From someone describing themselves only as Robotech in Greater Peterborough (???) there first comes a complete solution to **TARKUS & THE CRYSTAL OF FEAR**.

You will need spells. The 6 spells are obtained by :

ITEMS	SPELL
2 ROCKS	FLY
2 CRYSTALS	FREEFALL
2 GOLD CUPS	TRANSPORT
1 CRYSTAL, 1 ROCK	ARMOUR
1 CUP, 1 ROCK	ENERGY
1 CUP, 1 CRYSTAL	FREEZE

Of the above there are only two that are not really necessary to finish the game, they are *FREEZE* and *ENERGY* spells, however it is a good idea to always keep *FREEZE* and *ENERGY* spells in reserve, you never know when you might need them. If you ever find that your energy is dropping-dangerously low then use the *ENERGY* spell to replenish your supplies.

In order to get a spell, collect a pair of items as shown above, and then take them to the cauldron on the right most edge of the **Magic World** (world number 3 from left to right), once there touch the cauldron and press the letter C on your keyboard, this will then create the spell ready for you to use.

All of the objects needed are in plentiful supply (at least to begin with) on the appropriate world. To get one stand over one of the boxes and press P on the keyboard. If, after you have picked up an object, you then want to drop it, simply stand over an empty box and press the P key.

The following solution is not the only one possible, indeed there are several other variants, but this one is, I believe, the quickest and probably the easiest. You still need to be quite good at dodging all the nasties that pop up all over the place, but you should be able to do that without too much trouble after you've played a couple of times - remember always keep an *ENERGY* spell in reserve!!!

The first thing you should do is to mix an *ENERGY* spell - just in case. After that pick up an *ARMOUR* and a *FLY* spell. Then go to the **Crystal World** (world number two), go all the way to the right end of the world, dodging the arrows and ghosts as you go (it's not really all that difficult), then drop down onto the first platform, cast the *ARMOUR* spell (by pressing 2 on the keyboard) to get past the ghost, and then drop off the platforms until you reach the larger platform with a one way passage through it (the one with an arrow pointing downward in it). Keep going through these one way passages until you reach the first of your Crystals of Emotion. Pick this up and then drop down to ground level (through the final one way passage). Once on the ground walk left and pick up the two crystals that are down there (they may come in handy later!), then walk back a little way and line yourself up half way inbetween the two candelabras hanging from the two big arches. Now cast the *FLY* spell, press the joystick button (and keep it pressed) and you should soar up into the skies. Once you are past the narrow entrance then fly towards the right. When you reach the far right end of the screen you should be able to exit the level easy enough, just go back the way you came in, dodging the nasties. Don't forget to avoid that one way passage downward on the way out, if you do happen to fall down it then you will be stuck!

Now get the *FLY*, *FREEFALL*, *TRANSPORT* and *ARMOUR* (and *ENERGY* if you happen to need it) spells and go to the **Gold World** (the fourth one), jump over the first gap and drop down through the second one (the deep one). Use the *FREEFALL* spell before you land to avoid injury. Once on the bottom go to the right, dodging the crucifixes, until you reach the 3 platforms with a gap above them. Jump up onto the platforms and through the gap, come to a rest on the left hand side of the gap, and when the crucifix on the opposite side is its lowest point you should be able to jump over it without difficulty. Then jump up the platforms and keep on going upwards until you reach the key. Pick this up then jump down the platforms again until you reach the bottom level. Now go all the way to the left hand edge of the screen (don't forget to avoid the nasties), climb up the first 6 platforms , go to the transporter (that strange looking cabinet sort of thing on your right). Stand in it and use the *TRANSPORT* spell. When the number 2 appears press the fire button and you will be transported to the **Crystal World** (level 2). Walk up to the wall and press the U key on your keyboard, the wall will now open. Go through and pick up the key, then walk back to the transporter and use the *FLY* spell to get out and

MISSION ZIRCON

Now for a couple of tips from Robotech on ***MISSION ZIRCON*** *- another of Tiger Developments' games*

Level 1 may seem a little difficult after the first few games, but once you get used to it is quite easy. Use the sensitive setting (press 1 on your keyboard) for the first half of level 1 (inside the space craft) and the fast setting (press 2 on your keyboard) from there on. Inside the spacecraft you only get attacked by 3 waves of aliens. Learn where these appear and the game will become much easier. Moving about inside the space craft is a bit tricky, especially exiting through that narrow gap at the end. Persevere and you will find that it isn't that difficult after all. I can judge position for that final exit 95% of the time now!

On level 2 watch out for the Tidal Waves, these always occur at set points in the level, so learn where they show up.

Once you (finally) make it to the TEK SHOP, first buy the Super Gun, and then (credits allowing) the Rocket Launcher and the Shield, in that order. Only buy extra lives after you have bought the Super Gun and Rocket Launcher (that's what I do at least and I've almost finished level 6!) or just before level 5.

Level 3 and 4 are pretty easy, but level 5 is a real pain. The best strategy is to stay as close to the middle of the screen as possible, only moving up and down slightly to blast holes in the incoming waves of aliens. Watch out for the tendrils. When one comes at you then move either forwards or backwards to get out of its way, try to avoid moving up and down as much as possible. Watch out for that last tendril, it can sometimes appear in mid air just when you thought you were safe!

One other tip concerns your method of firing. To fire just press the trigger button and keep it pressed for a continuous (well almost) stream of bullets instead of pressing and releasing the trigger each time you wish to fire. Now this may seem obvious but you'll be surprised, the thing is that if you use the second method of firing instead of the first then you will find yourself exiting the TEK SHOP before you realised you had entered it.

Finally the cheat mode (which is heavily hinted at in the instructions) is activated by pressing the three keys on the leftmost side of your keyboard (if you can't work it out from that then what are you doing?). Using this you can then experience the end of game sequence

fly across to the right hand side of the screen (do be careful with the arrows!). You can now leave this world in exactly the same way as you did before (again watch out for that one way passage!). Now go to the **Magic World**, go down as far as you can, go to the right hand side of the screen and run through the corridor to the left dodging all those nasties as you go, when you reach the wall, press the U key on the keyboard to unlock the wall and pick up your second Crystal of Emotion.

Now get the *ARMOUR*, *FREEFALL* and *TRANSPORT* spells again, go to the Gold World, down the deep crevice (remember to use *FREEFALL*), and to the transporter just like before, but this time transport to the **Rock World** (level 1), once there use the *ARMOUR* spell to get past the Nasties, walk left, drop down to the level below, walk right, pick up the key, and get out through the one way passage. Whilst you're down here you might as well pick up two more rocks, and then climb up the platforms to get out of here. Go up to the top of the level, go all the way to the right until you reach the wall with the Crystal behind it, use the U key to unlock it, go through and pick up your third Crystal of Emotion.

Now get the *FLY*, *FREEFALL* and *TRANSPORT* spells, go to the **Gold World**, down the crevice to the transporter and transport to the **Magic World** (level 3). Drop down to the ground level, and run left to pick up the key. Watch out for those 4 cards though! It is possible (and quite easy really) to get past them without them touching you. Get the key and go all the way to the right end of the screen and touch the far wall, then go up the platforms, through the one way passage, and then leave the level.

Now get the *FLY*, *FREEFALL* and *TRANSPORT* spells, go back to the **Gold World** (again!), down the crevice (you should know all this by now), then to the right, climb up the platforms, only this time don't stop at the transporter, but keep on going up as high as you can go. Then use the *FLY* spell to get up to the top platform where the final Crystal is, unlock the wall, and go through. Make sure you jump over the one way passage and pick up the Crystal, then go down the way passages, go to the transporter (beam me up Scotty!!) and transport to level 3. Now run all the way to the right hand side of the screen and touch the right hand wall, and then get out just as you did before. Exit the level and you should receive your final reward!!!!

TARKUS AND THE CRYSTAL OF FEAR IS COMPLETE!

ONE ON ONE

If when you get the ball in **ONE ON ONE BASKETBALL**, you are facing your opponent, press the fire button quickly to turn around, putting your back between the ball and your opponent.

Also, when playing against the computer, be Dr. J. Erving as he is the faster and does not tire out so easily.

We seem to have lost where this one came from - so thanks whoever you are!

FREE CASSETTES!

If your hint, tip or map is used by The Tipster you can claim a FREE CASSETTE (from those currently available from The Accessory Shop) but you won't get one if you don't send something to The Tipster - get tipping now!

HOW TO CLAIM

If you see your name in this column just drop us a line and say 'My name is ..... and I claim my free Tipster cassette' and simply tell us which cassette you would like (give an alternative just in case). We will whip it off to you poste haste (or straight away). If you prefer you can always give us a ring instead on the usual number

--- dit dit dit --- dot dot dot --- dit dit dit --

Henry Knowles needs help on **Alternative Reality : The City** and **Zork I**. Any one have the full solution to these or any other adventure games? If so there's a very deserving cause waiting to receive them.

One thing that I will say before I go for this issue is that Robotech can contact me on Telnet 128.39.145.226 login : skynet <CR> <CR> and then contact your old friend The Tipster.

Until next issue I will say au revoir, auf weidersehn and goodbye and I'll leave you with this final word. ***I NEED LETTERS, SOLUTION, MAPS, AND QUICK AND CHEERFUL TIPS.***

All that's left for me to say is that the address is as normal and everything sent will get into the magazine sometime. Write to

The Tipster
Page 6 Publishing
P.O. BOX 54
Stafford
ST16 1DR

COME ON TIPPERS - KEEP THE TIPSTER IN TIPS

CONVERSIONS

by David Lamont

This set of four programs might be useful to assembler programmers or anyone else who needs to convert decimal numbers to hexadecimal or binary and back again.

The ATARI uses values from 0 to 255 so all programs check that the number entered is within the allowable range. If there is an error the TRAP instruction prevents the program stopping and loops back to line 30.

DECIMAL TO HEX

Lines 60 to 75 do the conversion with numbers greater than 9 being changed to the hex values A to F;

```
10 REM DECIMAL TO HEXADECIMAL CONVERTER
15 REM BY DAVID LAMONT 1992
20 DIM A$(1),B$(1)
30 TRAP 30:? "ENTER A NUMBER (0 TO 255)===>";
35 INPUT X
40 IF X<>INT(X) OR X<0 OR X>255 THEN GOTO 30
50 ? :? "DECIMAL ";X;" IS HEXADECIMAL ";
60 A=INT(X/16):A$=STR$(A)
65 IF A>9 THEN A$=CHR$(A+55)
70 B=(X-INT(X/16)*16):B$=STR$(B)
75 IF B>9 THEN B$=CHR$(B+55)
99 ? A$;B$:GOTO 30
```

CHARACTERS TO NUMERICS

This one converts a character string to numerics.

```
10 REM HEXADECIMAL TO DECIMAL CONVERTER
15 REM BY DAVID LAMONT 1992
20 DIM X$(2)
30 TRAP 30:? "ENTER A HEX NUMBER (00 TO FF)===>";
35 INPUT X$
40 IF X$(1)<"0" OR X$(1)>"FF" OR X$(2)<"0" OR
X$(2)>"F" THEN 30
50 ? :? "HEXADECIMAL ";X$;" IS DECIMAL ";
60 A=ASC(X$):IF A>64 THEN A=(A-55)*16:GOTO 70
65 A=(A-48)*16
70 B=ASC(X$(2)):IF B>64 THEN B=B-55:GOTO 80
75 B=B-48
80 ? A+B
99 ? :GOTO 30
```

DECIMAL TO BINARY

This one checks the value of the number entered and assigns a 1 or 0 to each of the eight bits.

```
10 REM DECIMAL TO BINARY CONVERTER
15 REM BY DAVID LAMONT 1992
30 TRAP 30:? "ENTER A NUMBER (0 TO 255)===>";
35 INPUT X
40 IF X<>INT(X) OR X<0 OR X>255 THEN GOTO 30
50 ? :? "DECIMAL ";X;" IS BINARY ";
55 A=0:B=0:C=0:D=0:E=0:F=0:G=0:H=0
60 IF X>=128 THEN X=X-128:A=1
70 IF X>=64 THEN X=X-64:B=1
80 IF X>=32 THEN X=X-32:C=1
90 IF X>=16 THEN X=X-16:D=1
100 IF X>=8 THEN X=X-8:E=1
110 IF X>=4 THEN X=X-4:F=1
120 IF X>=2 THEN X=X-2:G=1
130 IF X=1 THEN H=1
140 ? A;B;C;D;E;F;G;H
150 ? :GOTO 30
```

BINARY TO DECIMAL

This one determines the length of the binary number and starts at the Least Significant Bit (LSB or bit 0).

The conversion takes place in the loop from line 50 to 80. Line 70 is where each bit is multiplied by the bit value (1 to 128). Variable Z is the bit value which is doubled each time. Variable D is a cumulative decimal value.

```
10 REM BINARY TO DECIMAL CONVERTER
15 REM BY DAVID LAMONT 1992
20 DIM X$(9)
30 TRAP 30:? :? "ENTER A NUMBER":? "(0 TO
   11111111)===>";
35 INPUT Q:X$=STR$(Q):X=LEN(X$):Z=1:D=0
40 IF X>8 THEN 30
50 FOR Q=X TO 1 STEP -1
60 A=VAL(X$(Q,Q)):IF A>1 THEN 30
70 A=A*Z:Z=Z*2:D=D+A
80 NEXT Q
160 ? :? "BINARY ";X$;" IS DECIMAL ";
170 ? D
180 GOTO 30
```

DANGEROUS DU

Life can be hard on the other side of the world, especially if you bought an ATARI 800XL during the big home computer push of the mid eighties only to find yourself stranded with no support after a couple of years, but I have persevered and with the help of scarce software, books and magazines the 800XL is still used for school projects, homework, correspondence and record keeping. It may not be as sophisticated as more modern computers but it still does the job I originally bought it for.

Problems do still arise from time to time especially when I get creative and try to write games. BASIC games can be slow and, in spite of the wonderful colours, can look ordinary. That's when I decide to try things that other people had put in their programs only to find I couldn't follow their code.

Program listings are fine for typing in and running but are hard to learn from. My aim here is to explain what I have done, why I have done it and, most importantly, how. I am no expert in BASIC programming but there may be something here that will help you.

The first thing I learnt to do to when writing programs was redefining character sets. Then followed player/missile graphics and a nifty machine language routine for fast P/MG vertical movement. A new thing I have been using lately to speed things up is dividing my games into two programs. The first redefines character sets, sets up P/MG, includes a title screen, has instructions and then loads part two. Part two contains the essential code for the game and runs faster without all the distractions of part one.

All these things are contained in my latest game "Dangerous Dungeons".

BUILDING A DISPLAY

Character graphics is one of the easiest ways to get a graphics display on the ATARI. Individual characters within the set can be changed to suit any purpose and it's relatively straightforward.

To redefine characters you must first copy the normal character set from ROM to RAM. Before you can do that you must first find it. The normal character set resides in 2K of ROM

128	64	32	16	8	4	2	1	
		X	X	X				56
	X	X	X	X	X			124
X	X	X	X	X	X	X		254
X	X	X	X		X	X		246
X	X	X	X		X	X		246
X	X	X	X		X	X		246
X	X	X	X		X	X		246
								0

Figure 1

beginning at the location determined by the contents of location 756. The starting address must be found and this is done by multiplying the contents of location 756 by 256. My programs, therefore, contain the following statement:

```
CHORG=(PEEK(756)*256)
```

Now that the character set has been found the next step is to find somewhere to copy it to. Location 106 contains the page number of the top of memory. In all the examples I have seen the top eight pages are kept free from use by BASIC so I use the following statement:

```
CH=(PEEK(106)-8)*256
```

The character set is then copied from ROM to RAM by using:

```
FOR Q=0 TO 511
POKE CH+Q,PEEK(CHORG+Q)
NEXT Q
```

The next thing that has to be done is to tell the computer to use the new character set. This is done with

```
POKE 756,CH/256
```

Every time you change graphics modes within a program you must execute this statement.

To modify characters you will need to fill an 8x8 grid. Each character is made up of eight rows or bytes. A byte is eight binary digits, or bits. Each bit has a value from 1 to 128 and they are added to find the total for each byte. The eight byte values are then POKEd into the appropriate character in the new set in RAM.

My programs now have the complete set redefined to one that I think looks better than the standard one in ROM. For example you can see from Figure 1 that the letter "A" is made up of eight bytes with values of 56, 124, 254, 246, 246, 246, 246 and 0.

In Listing 1, line 1040 reads from the data lines the address of each character (the internal code*8) followed by the values for each of the eight bytes. These are then POKEd into that address in the new character set.

Lines 1055 to 1070 contain the data for special characters such as #, $, @ etc. Lines 1080 to 1110 have the numbers 0 to 9 plus the "!" symbol. Lines 1120 to 1200 have the data for letters "A" to "Z".

As well as modifying some special characters I have also redefined "J", "Q" and "X" to represent the player character in the game.

HANDLING VERTICAL MOVEMENT

Vertical movement of P/M graphics in Basic can be done but it needs a special machine language routine. It took me a long time to work this one one out because, although it was con-

...UNGEONS

David Lamont presents his latest game and explains how it was written to help you write a game of your own

tained in some listings I have, there was no explanation.
This method uses the command

```
X=USR(1536,loc,START+old,START+new)
```

X is a dummy variable, anything can be used. Location 1536 is where the machine language routine can be found. Variable "loc" is the memory location where the data for a player or missile is stored. START+old is the current vertical location, START+new is where the image is to be relocated.

It is best to clean out locations 1536 to 1792 to ensure no unwanted data corrupts the routine. I use

```
FOR Q=1536 TO 1792
POKE Q,0
NEXT Q
```

Now POKE the data in starting at location 1536. Lines 2100 to 2102 contain the machine language code for vertical P/M movement. Lines 2110 to 2115 contain the images of each player. The first number in each data line is the size of the player. The rest is the data that determines its shape, just like character graphics. This program uses three different shapes. Any player can be any of the defined shapes.

The next thing to do is to find free memory to store the P/M details. Use location 106 again:

```
MYBASE=(PEEK(106)-24)
```

You will see that I have left the top 24 pages free to ensure the redefined character set is not disturbed. POKE this value into location 54279 to tell the computer what page number to go to for P/M data.

The start of P/M information is found by taking the page number and multiplying it by 256.

```
START=MYBASE*256+384
```

I have also added an extra 384 bytes because a small amount of space is kept free. The rest is divided into 128 byte sections, one for the four missiles and one each for the four players. Everything is now ready to be used.

```
QK 1 REM ******************************
EG 2 REM *     DANGEROUS DUNGEONS     *
EZ 3 REM *         Listing 1          *
FF 4 REM *      by David Lamont       *
IZ 5 REM * -------------------------- *
FO 6 REM * NEW ATARI USER - AUG 1993 *
QQ 7 REM ******************************
NN 8 REM
MH 50 GOSUB 1000
TP 900 GOSUB 8000
UL 999 RUN "D:DUNGEON2"
WN 1000 GRAPHICS 0:POKE 710,52:POKE 712,9
   9:POKE 752,1:Z=243
IN 1010 POSITION 12,9:? "                ":
   POSITION 12,10:? " LOADING DATA ":POSI
   TION 12,11:? "                "
AM 1020 POSITION 12,13:? "                "
   :POSITION 12,14:? " PLEASE  WAIT ":POS
   ITION 12,15:? "                "
GS 1025 CHORG=(PEEK(756)*256):CH=(PEEK(10
   6)-8)*256
SC 1030 FOR Q=0 TO 511:POKE CH+Q,PEEK(CHO
   RG+Q):Z=Z-0.1:POSITION 18,12:? ;INT(Z)
   ;" ":NEXT Q
PT 1040 RESTORE 1055:FOR I=1 TO 46:READ A
   DDR:FOR J=0 TO 7:READ C:POKE CH+ADDR+J
   ,C:NEXT J:Z=Z-0.5
WV 1050 POSITION 18,12:? ;INT(Z);" ":NEXT
    I
OD 1055 DATA 256,251,251,251,0,191,191,19
   1,0,488,28,103,103,103,62,24,24,30,472
   ,56,230,230,230,124,24,24,120
GV 1060 DATA 32,0,112,120,249,143,143,120
   ,112,40,60,102,102,102,255,255,255,255
   ,224,231,153,231,153,231,153,231,24
GA 1070 DATA 72,7,5,5,253,165,165,165,7,2
   4,247,157,245,7,226,175,185,239,240,62
   ,4,8,16,62,4,8,16
YA 1080 DATA 128,124,238,238,254,254,254,
   124,0,136,56,248,56,56,56,254,254,0,14
   4,124,198,28,112,254,254,254,0
YX 1090 DATA 152,254,28,120,28,206,254,12
   4,0,160,220,220,220,220,254,28,28,0,16
   8,254,224,252,14,238,254,124,0
HC 1100 DATA 176,126,224,252,238,238,254,
   124,0,184,254,14,14,28,60,120,120,0,19
   2,124,238,124,238,254,254,124,0
```

continued overleaf

Have a look at lines 9521, 9541, 9561, 9581 and 9615 in Listing 2 to see how the P/M players are used. I use a variable name for the location of the player's shape data, e.g. WIZ1=1580, LIB1=1601. START+Y1 is the vertical location that a missile is to be erased from and START+YN1 is its new vertical location. Adding 128, 256, 384 or 512 identifies players 1 to 4 respectively. By using a different location in lines 9521 and 9615 you will see that player 1 can be used as two different shapes.

I also try to make my programs as modular as possible. This means that I can copy sections from one program to another rather than start from scratch.

PLAY THE GAME!

To play Dangerous Dungeons type in and save each program. Load and run program one which will in turn run program two. Program two can be run over and over again but if you happen to press RESET at any time then you must start again with program one.

DANGEROUS DUNGEONS

```
UR 1110 DATA 200,124,238,126,14,238,254,1
   24,0,8,124,124,124,124,0,124,124,0
OX 1120 DATA 264,56,124,254,246,246,246,2
   46,0,272,252,230,252,230,254,254,252,0
   ,280,126,224,224,224,254,254,126,0
QF 1130 DATA 288,248,236,230,254,254,252,
   248,0,296,254,224,252,224,254,254,254,
   0,304,254,224,252,240,240,240,240,0
HN 1140 DATA 312,126,224,238,226,254,254,
   126,0,320,246,246,254,246,246,246,246,
   0,328,254,124,124,124,124,124,254,0
TN 1150 DATA 336,0,24,218,251,251,255,254
   ,124,344,206,220,248,252,222,222,222,0
   ,352,224,224,224,224,254,254,254,0
IX 1160 DATA 360,198,238,254,254,238,238,
   238,0,368,230,246,254,254,254,238,238,
   0,376,124,238,238,238,254,254,124,0
LI 1170 DATA 384,252,238,238,252,240,240,
   240,0,392,124,126,62,254,254,14,126,56
   ,400,252,198,254,252,222,222,222,0
AA 1180 DATA 408,126,224,124,6,254,254,25
   2,0,416,254,124,124,124,124,124,124,0,
   424,246,246,246,246,254,254,124,0
GY 1190 DATA 432,246,246,246,254,124,56,1
   6,0,440,238,238,238,254,254,238,198,0,
   448,62,126,124,127,127,112,126,28
CL 1200 DATA 456,238,238,124,56,124,124,1
   24,0,464,254,30,60,120,254,254,254,0
HX 2000 REM
XC 2030 FOR Q=1536 TO 1792:POKE Q,0
QP 2040 Z=Z-0.1:POSITION 18,12:? ;INT(Z);
   " ":NEXT Q
RF 2050 CODE=1536:FOR A=0 TO 75:READ B:PO
   KE CODE+A,B:Z=Z-0.1
NY 2055 Z=Z-0.1:POSITION 18,12:? ;INT(Z);
   " ":NEXT A
KH 2060 MYBASE=PEEK(106)-24:POKE 54279,MY
   BASE:POKE 559,46:POKE 53277,3:POKE 623
   ,16
VB 2080 START=MYBASE*256+384:FOR CLEAR=0
   TO 639:POKE START+CLEAR,0:Z=Z-0.1
NK 2085 Z=Z-0.1:POSITION 18,12:? ;INT(Z);
   " ":NEXT CLEAR
SE 2100 DATA 104,162,5,104,149,220,202,16
   ,250,198,220,198,222,160,0,177,224,170
OB 2101 DATA 168,165,223,240,9,169,0,145,
   222,136,208,249,138,168,165,221,240,7,
   177,224
UH 2102 DATA 145,220,136,208,249,96
PM 2110 DATA 10,0,0,60,118,255,255,255,25
   5,126,60
UJ 2112 DATA 9,4,8,60,126,255,255,255,126
   ,60
CB 2115 DATA 10,60,126,219,219,255,195,25
   5,126,36,102
EF 6000 REM START
TO 6010 GRAPHICS 2:POKE 708,52:POKE 712,1
   13:POKE 710,113:POKE 752,1
JT 6015 POKE 756,CH/256
LU 6020 ? #6;"____________________"
XD 6030 ? #6;" DANGEROUS DUNGEONS"
ZY 6040 ? #6
NH 6050 ? #6;"         A"
AV 6055 ? #6
UF 6060 ? #6;"      MAGICAL"
AY 6065 ? #6
IY 6070 ? #6;"     ADVENTURE"
MM 6080 ? #6;"____________________"
SS 6100 FOR N=1 TO 6:READ A,B
BU 6110 SOUND 0,A,10,8:SOUND 1,A/2,10,8:F
   OR D=0 TO B*70:NEXT D
UG 6120 SOUND 0,0,0,0:SOUND 1,0,0,0
HI 6130 NEXT N
XN 6200 DATA 171,2,191,2,143,2,127,1,95,1
   ,113,4
TS 6510 ? :? "          PRESS HELP OR STAR
   T"
ML 6630 POKE 53279,0:POKE 732,0
YX 6640 IF PEEK(53279)=6 THEN RETURN
ZT 6645 IF STRIG(0)=0 THEN RETURN
LO 6650 IF PEEK(732)=17 THEN GOTO 7000
UU 6660 GOTO 6640
SX 7000 REM INSTRUCTIONS
OY 7005 GRAPHICS 0:POKE 710,180:POKE 712,
   180:POKE 709,12:POKE 752,1
BJ 7010 ? "          DANGEROUS DUNGEONS"
HG 7020 ? "A great disaster has befallen
   Castle"
BM 7030 ? "Braintree  the  ancient  home
   of the"
NJ 7040 ? "wizards. Invaders have destroy
   ed the"
OD 7050 ? "Great Library and the books of
   magic"
VT 7055 ? "once securely chained  and pad
   locked"
XL 7060 ? "lie scattered below. Random ma
   gic is"
ZD 7070 ? "leaking  from  the  books  and
    doing"
QI 7080 ? "nasty  and  unpredictable  thi
   ngs."
RZ 7090 ? "Already  several  wizards have
    been"
EA 7100 ? "turned into fruit  and the lib
   rarian"
PS 7110 ? "is now an orange bug."
YT 7120 ? :? "You are  Wizard 3rd Class
   Windrush"
GL 7130 ? "the Unsteady.  You have  been
   chosen"
HG 7140 ? "to go into  the dungeons  and
   return"
BD 7150 ? "the books, chain, padlock and
   key to"
OK 7160 ? "the Great Library."
NV 7170 ? :? "Keep an eye out for some fr
   uit and a"
JO 7180 ? "bug while you are down there."
BD 7450 ? :? "        PRESS HELP TO CONTIN
   UE"
OC 7460 POKE 732,0
SG 7490 IF PEEK(732)=17 THEN GOTO 7500
XU 7495 GOTO 7490
LG 7500 ? "K"
TR 7510 ? "Use the  joystick to  move lef
   t  and"
OZ 7520 ? "right.  Use the trigger  to ju
   mp up."
XQ 7530 ? "If you  fall more than  one le
   vel at"
TV 7540 ? "a time it will hurt."
GZ 7550 ? :? "When  you have  collected
   all of the"
HQ 7560 ? "items on each screen make your
    way to"
HK 7570 ? "the top  right corner to  go o
   nto the"
CB 7580 ? "next one."
PW 7590 ? :? "There are ten  screens to d
   o but you"
QW 7600 ? "must hurry before your time ru
   ns out"
VD 7610 ? "and Castle Braintree is destro
   yed in"
MH 7620 ? "a cataclysmic burst of random
   magic."
WZ 7630 ? :? "          Good luck!"
XY 7930 ? :? "          PRESS START TO BEGI
   N"
FQ 7935 POKE 53279,0
ZE 7940 IF PEEK(53279)=6 THEN RETURN
AA 7945 IF STRIG(0)=0 THEN RETURN
WW 7960 GOTO 7940
DI 7999 RETURN
WC 8000 GRAPHICS 17:POKE 712,35:POKE 708,
   202
JS 8005 POKE 756,CH/256
KT 8010 POSITION 7,6:? #6;"PLEASE":POSITI
   ON 8,8:? #6;"WAIT"
OD 8020 POSITION 3,10:? #6;"WHILE  PROGRA
   M":POSITION 7,12:? #6;"STARTS"
DJ 8999 RETURN
```

```
QK 1 REM *****************************
EG 2 REM *     DANGEROUS DUNGEONS     *
FX 3 REM *         Listing 2          *
WF 4 REM *     by David Lamont        *
IZ 5 REM * ------------------------- *
FO 6 REM * NEW ATARI USER - AUG 1993 *
QQ 7 REM *****************************
NN 8 REM
AD 30 LIFE=3:LEVEL=5:LOCK=0:KEY=0:FALL=6:CHAIN=0:PMF=0:TURN=0
RN 40 SCORE=0:BOOK=0:TIME=70:MAN=2
FP 50 KS=INT(RND(0)*5)+1:LS=INT(RND(1)*5)+1:CS=INT(RND(0)*5)+1
VL 55 HP1=53248:HP2=53249:HP3=53250:HP4=53251:HM1=53252:HM2=53253:HM3=53254:HM4=53255
UT 60 WIZ1=1580:WIZ2=1580:WIZ3=1591:WIZ4=1591:LIB1=1601
IG 65 MYBASE=PEEK(106)-24:START=MYBASE*256+384
HY 70 CH=(PEEK(106)-8)*256
MN 75 GRAPHICS 17:POKE 709,12:POKE 708,202:POKE 712,227:POKE 710,246
EG 80 POKE 16,64:POKE 53774,64:POKE 752,1
WH 85 POKE 704,37:POKE 705,196:POKE 706,52:POKE 707,148
DP 90 POKE 756,CH/256
GQ 95 POKE 559,46:POKE 53277,3:POKE 623,17
QF 99 GOSUB 9000
SF 100 REM MAIN MOVE ROUTINE
NT 105 STK=STICK(0)
VU 106 IF STRIG(0)=0 AND JUMP<5 THEN GOSUB 800
LJ 110 IF STK=7 THEN GOSUB 400
SD 140 IF STK=11 THEN GOSUB 500
AQ 150 IF PICKUP=0 AND PX=19 AND PY=4 THEN GOSUB 3000
UH 160 IF LIB=1 AND G1<250 THEN G1=G1+4:POKE HP1,G1
VS 200 LOCATE PX,PY+2,FL:IF (FL<>192 AND STRIG(0)=1) OR (FL<>192 AND JUMP=5) THEN GOSUB 900
AO 210 TURN=TURN+1:IF TURN=20 THEN GOSUB 700
CL 220 IF TURN=25 THEN GOSUB 750
GM 240 IF PEEK(53252)=9 AND LIB=1 THEN POKE HP1,0:GOSUB 1400
TL 250 IF PEEK(53252)=9 THEN POKE HP1,0:GOSUB 2100
VZ 255 IF PEEK(53253)=9 THEN POKE HP2,0:GOSUB 2100
XL 260 IF PEEK(53254)=9 THEN POKE HP3,0:GOSUB 2100
ZZ 265 IF PEEK(53255)=9 THEN POKE HP4,0:GOSUB 2100
ZJ 360 IF FL=192 AND FALL<0 THEN GOSUB 1000
HQ 370 IF FL=192 THEN JUMP=0:FALL=6
DV 390 TIME=TIME-PEEK(19):POKE 19,0:POSITION 16,23:? #6;TIME;" ":IF TIME=0 THEN GOTO 10000
NB 399 GOTO 100
BN 400 REM MOVE RIGHT
QV 405 IF PX=19 THEN RETURN
GB 410 NPX=PX+1:NPY=PY:LOCATE NPX,NPY,PZ1:LOCATE NPX,NPY+1,PZ2
LJ 420 IF PZ1=192 OR PZ2=192 THEN RETURN
GN 430 POSITION PX,PY:? #6;" ":POSITION PX,PY+1:? #6;" "
UE 440 POSITION NPX,NPY:? #6;"X":POSITION NPX,NPY+1:? #6;"]":PX=NPX:PY=NPY
HX 450 IF PZ1=35 OR PZ1=37 OR PZ1=41 THEN PZ=PZ1:GOSUB 600
MN 455 IF PZ2=35 OR PZ2=37 OR PZ2=41 THEN PZ=PZ2:GOSUB 600
KX 460 IF PZ1=60 OR PZ2=60 THEN GOSUB 2000
PF 470 IF PZ1=62 OR PZ2=62 THEN GOSUB 1200
ZT 490 MAN=2
AT 499 RETURN
MM 500 REM MOVE LEFT
JO 505 IF PX=0 THEN RETURN
GY 510 NPX=PX-1:NPY=PY:LOCATE NPX,NPY,PZ1:LOCATE NPX,NPY+1,PZ2
LK 520 IF PZ1=192 OR PZ2=192 THEN RETURN
GO 530 POSITION PX,PY:? #6;" ":POSITION PX,PY+1:? #6;" "
IJ 540 POSITION NPX,NPY:? #6;"C":POSITION NPX,NPY+1:? #6;"[":PX=NPX:PY=NPY
HY 550 IF PZ1=35 OR PZ1=37 OR PZ1=41 THEN PZ=PZ1:GOSUB 600
MO 555 IF PZ2=35 OR PZ2=37 OR PZ2=41 THEN PZ=PZ2:GOSUB 600
KY 560 IF PZ1=60 OR PZ2=60 THEN GOSUB 2000
PG 570 IF PZ1=62 OR PZ2=62 THEN GOSUB 1200
ZL 590 MAN=1
AU 599 RETURN
CQ 600 REM MOVE ONTO ITEMS
FJ 610 IF PZ=35 THEN POSITION 8,1:? #6;"#":CHAIN=1
LV 615 IF PZ=37 THEN POSITION 10,1:? #6;"%":LOCK=1
GG 620 IF PZ=41 THEN POSITION 12,1:? #6;")":KEY=1
PN 625 PICKUP=PICKUP-1:SCORE=SCORE+100:POSITION 2,1:? #6;SCORE
VC 630 FOR P=15 TO 0 STEP -2
LH 635 SOUND 0,20,10,P
GZ 640 FOR DD=1 TO 3:NEXT DD
JL 645 NEXT P
VG 650 FOR P=15 TO 0 STEP -2
PF 655 SOUND 0,27,10,P
HD 660 FOR DD=1 TO 3:NEXT DD
JP 665 NEXT P
WE 670 SOUND 0,0,0,0
AV 699 RETURN
SH 700 REM RANDOM MAGIC
KD 701 YA=4:X1=INT(RND(0)*19)+1:LOCATE X1,YA,C1
QW 702 YB=8:X2=INT(RND(0)*19)+1:LOCATE X2,YB,C2
SF 703 YC=12:X3=INT(RND(0)*19)+1:LOCATE X3,YC,C3
```

continued

DANGEROUS DUNGEONS

```
ZG 704 YD=16:X4=INT(RND(0)*19)+1:LOCATE X
   4,YD,C4
DD 705 YE=20:X5=INT(RND(0)*19)+1:LOCATE X
   5,YE,C5
JU 715 SOUND 2,20,2,5
WX 720 IF C1=32 OR C1=241 OR C1=250 THEN
   POSITION X1,YA-1:? #6;">":POSITION X1,
   YA:? #6;">":POSITION X1,YA+1:? #6;">"
RC 725 IF C2=32 OR C2=241 OR C2=250 THEN
   POSITION X2,YB-1:? #6;">":POSITION X2,
   YB:? #6;">":POSITION X2,YB+1:? #6;">"
KF 730 IF C3=32 OR C3=241 OR C3=250 THEN
   POSITION X3,YC-1:? #6;">":POSITION X3,
   YC:? #6;">":POSITION X3,YC+1:? #6;">"
EK 735 IF C4=32 OR C4=241 OR C4=250 THEN
   POSITION X4,YD-1:? #6;">":POSITION X4,
   YD:? #6;">":POSITION X4,YD+1:? #6;">"
XN 740 IF C5=32 OR C5=241 OR C5=250 THEN
   POSITION X5,YE-1:? #6;">":POSITION X5,
   YE:? #6;">":POSITION X5,YE+1:? #6;">"
KU 745 IF C1=241 OR C2=241 OR C3=241 OR C
   4=241 OR C5=241 THEN GOSUB 1200
KS 746 IF C1=250 OR C2=250 OR C3=250 OR C
   4=250 OR C5=250 THEN GOSUB 1200
AM 749 RETURN
JD 750 IF C1=32 OR C1=241 OR C1=250 THEN
   POSITION X1,YA-1:? #6;" ":POSITION X1,
   YA:? #6;" ":POSITION X1,YA+1:? #6;" "
DI 755 IF C2=32 OR C2=241 OR C2=250 THEN
   POSITION X2,YB-1:? #6;" ":POSITION X2,
   YB:? #6;" ":POSITION X2,YB+1:? #6;" "
WL 760 IF C3=32 OR C3=241 OR C3=250 THEN
   POSITION X3,YC-1:? #6;" ":POSITION X3,
   YC:? #6;" ":POSITION X3,YC+1:? #6;" "
QQ 765 IF C4=32 OR C4=241 OR C4=250 THEN
   POSITION X4,YD-1:? #6;" ":POSITION X4,
   YD:? #6;" ":POSITION X4,YD+1:? #6;" "
JT 770 IF C5=32 OR C5=241 OR C5=250 THEN
   POSITION X5,YE-1:? #6;" ":POSITION X5,
   YE:? #6;" ":POSITION X5,YE+1:? #6;" "
II 780 TURN=0
XU 795 SOUND 2,0,0,0
AW 799 RETURN
XE 800 REM JUMP
UM 801 LOCATE PX,PY-1,PZ:IF PZ=192 THEN J
   UMP=5:RETURN
HA 805 POSITION PX,PY:? #6;" ":POSITION P
   X,PY+1:? #6;" "
YS 815 IF PZ<>192 THEN PY=PY-1
YM 820 IF MAN=1 THEN POSITION PX,PY:? #6;
   "▣":POSITION PX,PY+1:? #6;"["
PJ 825 IF MAN=2 THEN POSITION PX,PY:? #6;
   "▩":POSITION PX,PY+1:? #6;"]"
PT 830 IF PZ=35 OR PZ=37 OR PZ=41 THEN GO
   SUB 600
ZF 840 IF PZ=60 THEN GOSUB 2000
BG 850 IF PZ=62 THEN GOSUB 1200
XH 895 JUMP=JUMP+1
AX 899 RETURN
LW 900 REM FALL
HE 901 JUMP=5
HB 905 POSITION PX,PY:? #6;" ":POSITION P
   X,PY+1:? #6;" "
FM 910 PY=PY+1
YN 920 IF MAN=1 THEN POSITION PX,PY:? #6;
   "▣":POSITION PX,PY+1:? #6;"["
PK 925 IF MAN=2 THEN POSITION PX,PY:? #6;
   "▩":POSITION PX,PY+1:? #6;"]"
RG 930 IF FL=60 THEN GOSUB 2000
TH 940 IF FL=62 THEN GOSUB 1200
TG 950 IF FL=35 OR FL=37 OR FL=41 THEN GO
   SUB 600
FB 995 FALL=FALL-1
AY 999 RETURN
PI 1000 REM FELL TOO FAR
LH 1005 DX=PX:DY=PY+1:IF DX=19 THEN DX=18
BR 1010 POSITION PX,PY:? #6;" ":POSITION
   PX,PY+1:? #6;" "
BK 1020 POSITION DX,DY:? #6;"█$"
HF 1030 FOR DD=15 TO 0 STEP -2
MY 1040 SOUND 0,50,8,DD
EL 1050 FOR D=1 TO 16-DD:NEXT D
HO 1060 SOUND 0,0,0,0
IR 1070 NEXT DD
PR 1090 FOR D=1 TO 200:NEXT D
BY 1100 LIFE=LIFE-1:POSITION 7,23:? #6;LI
   FE:IF LIFE=0 THEN GOTO 10000
ZU 1110 FOR P=15 TO 0 STEP -2
FC 1120 SOUND 0,27,10,P
OT 1130 FOR DD=1 TO 3:NEXT DD
IC 1140 NEXT P
HN 1150 SOUND 0,0,0,0
VW 1160 POSITION DX,DY:? #6;"  "
ME 1170 IF MAN=1 THEN POSITION PX,PY:? #6
   ;"▣":POSITION PX,PY+1:? #6;"["
CZ 1180 IF MAN=2 THEN POSITION PX,PY:? #6
   ;"▩":POSITION PX,PY+1:? #6;"]"
CM 1199 RETURN
FT 1200 REM ZAPPED
WW 1210 SOUND 2,20,2,5
PC 1220 FOR D=0 TO 50:NEXT D
IH 1230 SOUND 2,0,0,0
AH 1310 GOSUB 750
WV 1320 GOSUB 1000
BV 1329 RETURN
IQ 1400 REM CAPTURE BUG
CV 1405 POKE 53278,255
ZO 1410 SCORE=SCORE+500:POSITION 2,1:? #6
   ;SCORE:LIB=2
QJ 1420 FOR S=250 TO 200 STEP -4
WZ 1425 SS=INT(RND(0)*100)+1
SW 1430 SOUND 0,55,10,8:SOUND 1,55/2,10,8
JP 1440 NEXT S
UQ 1450 SOUND 0,0,0,0:SOUND 1,0,0,0
CS 1499 RETURN
SM 2000 REM PICK UP BOOKS
IQ 2010 PICKUP=PICKUP-1:SCORE=SCORE+10:BO
   OK=BOOK+1:POSITION 2,1:? #6;SCORE
TF 2020 FOR S=250 TO 150 STEP -4
YE 2030 SOUND 0,5,10,8:SOUND 1,5-100,10,8
JI 2040 NEXT S
UJ 2050 SOUND 0,0,0,0:SOUND 1,0,0,0
CL 2099 RETURN
WY 2100 REM PICK UP FRUITY WIZARDS
WM 2105 POKE 53278,255:PICKUP=PICKUP-1
AZ 2110 SCORE=SCORE+200:POSITION 2,1:? #6
```

```
;SCORE:WIZARD=WIZARD+1
QE 2120 FOR S=250 TO 200 STEP -4
WU 2125 SS=INT(RND(0)*100)+1
CK 2130 SOUND 0,SS,10,8:SOUND 1,SS+100,10
   ,8
JK 2140 NEXT S
UL 2150 SOUND 0,0,0,0:SOUND 1,0,0,0
CN 2199 RETURN
YB 3000 REM NEW LEVEL
HE 3001 TURN=0
PK 3005 SOUND 2,0,0,0:POKE HP1,0:POKE HP2
   ,0:POKE HP3,0:POKE HP4,0
MF 3010 IF SCR=10 THEN GOTO 4600
HA 3020 ? #6;"K":POKE 712,50:POKE 708,202
IB 3021 POSITION 0,0:? #6;"______________
   _______"
AF 3025 POSITION 5,2:? #6;"WELL  DONE"
VV 3026 POSITION 3,4:? #6;"wizard windrus
   h"
UZ 3030 POSITION 1,7:? #6;"YOU HAVE COMPL
   ETED"
QN 3035 POSITION 6,9:? #6;"SCREEN ";SCR
BH 3040 POSITION 2,12:? #6;"BUT THERE'S S
   TILL"
KG 3045 POSITION 3,14:? #6;"MORE WORK TO
    DO"
IT 3050 POSITION 5,18:? #6;"KEEP GOING!"
AE 3060 POSITION 0,20:? #6;"_____________
   ________"
GU 3100 FOR P=100 TO 50 STEP -2
DF 3110 SOUND 1,P-20,14,8
NW 3120 SOUND 0,P,10,8
NB 3130 FOR D=1 TO 10:NEXT D
IE 3140 NEXT P
IE 3160 SOUND 1,0,0,0
HV 3170 SOUND 0,0,0,0
PV 3185 FOR D=1 TO 100:NEXT D
BG 3190 GOSUB 9000
CO 3199 RETURN
ZO 4600 REM MADE IT
FS 4610 GRAPHICS 1:POKE 756,CH/256
VV 4615 POKE 16,64:POKE 53774,64:POKE 752
   ,1
SO 4620 SETCOLOR 0,1,12:POKE 710,113:POKE
    712,113
UJ 4625 SETCOLOR 1,1,12
IN 4630 POSITION 0,0:? #6;"______________
   _______"
VH 4635 POSITION 3,2:? #6;"CONGRATULATION
   S"
VQ 4640 POSITION 3,4:? #6;"wizard windrus
   h"
VL 4645 POSITION 3,6:? #6;"YOU HAVE SAVED
   "
OZ 4650 POSITION 2,8:? #6;"CASTLE BRAINTR
   EE"
KJ 4655 POSITION 5,12:? #6;"YOU RESCUED "
   :POSITION 9,13:? #6;WIZARD:POSITION 7,
   14:? #6;"WIZARDS"
GW 4660 POSITION 6,16:? #6;"AND SAVED ":P
   OSITION 9,17:? #6;BOOK:POSITION 8,18:?
    #6;"BOOKS"
GJ 4670 POSITION 0,19:? #6;"_____________
   ________"
HK 4710 FOR P=100 TO 50 STEP -2
EM 4715 SOUND 1,P-20,14,8
OJ 4720 SOUND 0,P,10,8
OF 4725 FOR D=1 TO 10:NEXT D
IO 4730 NEXT P
HZ 4740 SOUND 0,0,0,0
JF 4745 SOUND 1,0,0,0
SE 4760 GOTO 10320
DI 7999 RETURN
IE 9000 REM
UZ 9001 ? #6;"K":POKE 709,12:POKE 708,202
   :POKE 712,227:POKE 710,246
HH 9002 IF LIB=1 THEN LIB=0:POKE 704,37
AT 9005 SCR=SCR+1:POKE 19,0:POKE 53256,0
YD 9010 POSITION 0,0:? #6;" score        s
   creen"
OB 9020 POSITION 2,1:? #6;SCORE
SO 9040 POSITION 16,1:? #6;SCR
OY 9050 IF CHAIN=1 THEN POSITION 8,1:? #6
   ;"#"
QA 9060 IF LOCK=1 THEN POSITION 10,1:? #6
   ;"%"
GK 9070 IF KEY=1 THEN POSITION 12,1:? #6;
   ")"
LM 9100 FOR Y=2 TO 22 STEP 4
OS 9110 FOR X=0 TO 19
LB 9150 POSITION X,Y:? #6;"@"
MA 9160 NEXT X
MO 9170 NEXT Y
WH 9180 POSITION 0,23:? #6;" lives ";LIFE
TT 9190 POSITION 10,23:? #6;" time ";TIME
RZ 9300 REM REMOVE SOME BRICKS
RT 9305 FOR Y=6 TO 18 STEP 4
FY 9306 FOR X=1 TO 6
BP 9310 Q=INT(RND(0)*19)+1
NG 9315 LOCATE Q,Y,Z:IF Z=32 THEN GOTO 93
   10
IZ 9320 POSITION Q,Y:? #6;" "
MM 9325 NEXT X
NB 9326 NEXT Y
JK 9335 REM LOCATE PLAYER
ZO 9340 PX=0:PY=20
NI 9350 POSITION PX,PY:? #6;"X":POSITION
   PX,PY+1:? #6;"]"
QJ 9400 REM LOCATE BOOKS
MS 9410 REM BS=INT(RND(0)*10)+5
SR 9411 BS=INT(RND(0)*1)+5:BS=BS+SCR
KV 9415 FOR B=1 TO BS
AI 9420 Y=INT(RND(0)*5)+1:Y=Y*4
EU 9425 X=INT(RND(1)*19)+1
XZ 9430 LOCATE X,Y,C:IF X<>0 AND X<>19 TH
   EN LOCATE X-1,Y,C3:LOCATE X+1,Y,C2
OH 9435 IF C2<>32 OR C<>32 OR C3<>32 THEN
    9425
OG 9440 POSITION X,Y:? #6;"<"
DL 9450 PICKUP=PICKUP+1
CY 9460 NEXT B
OB 9500 REM LOCATE WIZARDS
WF 9510 WY=INT(RND(0)*5)+1:YN1=14+(WY*16)
   :WY=WY*4
NS 9515 WX=INT(RND(1)*19)+1
GD 9520 LOCATE WX,WY,WC:IF WC<>32 THEN 95
   10
```

continued ☛

MORE TRANSDISK SOLUTIONS

Following Daniel Baverstock's letter in issue 62 identifying difficulties in using TransDisk IV, I've had some replies on the subject. I owe Bill Jackson of Leven, Fife an apology. If I'd spent a bit more time researching last issue's Mailbag, I might have remembered his article in issue 57 of "New Atari User" on TransDisk IV which outlined the cause of Daniel's problem. Thanks for reminding me Bill.

In the meantime, Raphael Espino (who wrote the issue 61 article describing ways to overcome TDIV problems) has written in with the following information: *"First, this is TWO problems, not one, and neither are anything to do with the 130XE. I would like to set the record straight at this point, because despite what may have been written elsewhere, XT and XL menus created on a 64K machine WILL work on a 130XE. I know this for a fact since menus created on my 65XE run with no problems on my 130XE. The first problem is that Daniel's old disks will not load on his enhanced 1050 disk drive. The solution is to reconfigure the drive. A suitable program for doing this appeared in New Atari User issue 46 (page 12) written by Phil Cardwell. You need to run his program listing 1, and then change the number of sectors per track from 18 to 26, leaving all the other parameters unchanged. Now stick one of your old XL/XT disks in your drive and reboot, you should find that it will now work. Note: you only have to reconfigure your drive once when you switch it on. After you have done it, it will stay with these new settings until you switch the drive off again. It should also be noted that there is a bug in Phil's program. The first word on line 900 reads DESNITY, this should be changed to DENSITY, also there is a line missing which should read:*

```
1045 POKE CONFIG+5,DENSITY
```

Now for the second (and hardest) problem, the problem of formatting new disks on an enhanced 1050. When formatting a disk, TDIV automatically selects the "best" density available. On a standard 1050 this would be enhanced density; however, on a US Doubler 1050 (or XF-551) it would be true double density. This is why you can't copy files from your old disks to your new ones, since DOS 2.5 does not support true double density, and DOS2.0TD handles TransDisk IV enhanced density only. But it doesn't matter anyway, since you can't boot a double density XL/XE/XT menu disk from a enhanced 1050 for reasons too complicated to go into here. Formatting XL/XE/XT disks from outside TransDisk IV is possible but difficult. Basically what you have to do is format a disk in enhanced density using DOS 2.5, then you need to take one of your old enhanced density disks (XL or XT depending on which menu you want) and by using a sector duplicator, copy across sectors 1 - 3, 360 and 920 - 1040 (all values are inclusive and in decimal). If you have an old XL/XT menu disk which you formatted but never copied any games onto than use it as the source disk. Otherwise you will need to use a sector editor after copying the sectors across to modify sector 360. What you have to do is set bytes 1 and 3 within the sector to 139 and bytes 2 and 4 to 3, then set all bytes from 10 to 125 inclusive to a value of 255 (that's counting the first byte in the sector as byte 0, the second as byte 1, etc.). The disk should now work!

As you can see this is not very easy to do, and including a full description plus a couple of programs to do this would need a whole article to itself. I have known about these problems for some time now, but have only just got round to fixing them. I am planning on writing another article on TransDisk IV with a couple of programs which will fix all these problems, and allow you to set up any disk with an XL/XE/XT menu in any density. This, however, will take me some time. Once it is written I will submit it to NAU for Les to publish. Hopefully with this information, Daniel will be able to use his old disks even if he can't format any new ones yet."

Thank you Raphael for such an informative and prompt reply.

60% SUCCESS RATE BUT HELP STILL NEEDED

M R Gardiner of Haverhill, Suffolk is another keen advocate of TD IV:
"I must say TransDisk IV is one of the best utility programs in my collection. I have had about 60% success rate with my transfers, but now I need help. Could you please tell me if there is an updated guide to titles that have been transferred, because try as I might, I cannot transfer "Red Max", "Ace of Aces", "Kennedy Approach", "Conflict in VietNam" and "Darts". I would be grateful for any information that you may have."

Dave Deeming of Gillingham, Kent and P A Cole of Ashford, Kent both note an annoyance with the result of transferring games with TransDisk IV. Dave writes:
"I have successfully transferred a cassette version of "Earthquake - San Francisco 1906". Unfortunately, when the you need to save the game at a convenient point, it can still only be saved on cassette - is there any way the save procedure can be modified to function for disk?"

And Mr Cole reports:
"I have transferred "Mr Robot" and "Polar Pierre" (both by Databyte) onto disk, and looking at the sectors with a disk editor, I find that the disk commands are in the tape version. How can I get them to save to disk? Maybe someone can look into this to see if it is possible by changing some bytes in the appropriate sectors?"

O.K. TDIV experts - has anyone got a definitive list of what games can be transferred by this utility from tape to disk? And is there anyone who can come up with a way to invoke the Save Game to Disk features?

If you can shed more light on these problems or have any tips to help Transdisk users drop me a line at Mailbag.

Allan J Palmer

DANGEROUS DUNGEONS

```
MI 9521 X=USR(1536,WIZ1,START+Y1+128,STAR
   T+YN1+128):Y1=YN1
ZY 9525 CW=INT(RND(0)*100)+1:IF CW>50 THE
   N POKE HP1,48+(WX*8):PICKUP=PICKUP+1
EK 9526 IF CW<50 AND LIB<>2 THEN LIB=1
XM 9530 WY=INT(RND(0)*5)+1:YN2=14+(WY*16)
   :WY=WY*4
VA 9535 WX2=INT(RND(1)*19)+1:IF WX2=WX TH
   EN 9535
VX 9540 LOCATE WX2,WY,WC:IF WC<>32 THEN 9
   530
ZY 9541 X=USR(1536,WIZ2,START+Y2+256,STAR
   T+YN2+256):Y2=YN2
CO 9545 CW=INT(RND(0)*100)+1:IF CW>50 THE
   N POKE HP2,48+(WX2*8):PICKUP=PICKUP+1
YT 9550 WY=INT(RND(0)*5)+1:YN3=14+(WY*16)
   :WY=WY*4
SM 9555 WX3=INT(RND(1)*19)+1:IF WX3=WX2 O
   R WX3=WX THEN 9555
ZU 9560 LOCATE WX3,WY,WC:IF WC<>32 THEN 9
   550
NO 9561 X=USR(1536,WIZ3,START+Y3+384,STAR
   T+YN3+384):Y3=YN3
GU 9565 CW=INT(RND(0)*100)+1:IF CW>50 THE
   N POKE HP3,48+(WX3*8):PICKUP=PICKUP+1
AA 9570 WY=INT(RND(0)*5)+1:YN4=14+(WY*16)
   :WY=WY*4
IX 9575 WX4=INT(RND(1)*19)+1:IF WX4=WX OR
    WX4=WX2 OR WX4=WX3 THEN 9575
DR 9580 LOCATE WX4,WY,WC:IF WC<>32 THEN 9
   570
AC 9581 X=USR(1536,WIZ4,START+Y4+512,STAR
   T+YN4+512):Y4=YN4
LA 9585 CW=INT(RND(0)*100)+1:IF CW>50 THE
   N POKE HP4,48+(WX4*8):PICKUP=PICKUP+1
IQ 9600 REM
VP 9605 IF LIB=0 OR LIB=2 THEN 9700
MP 9610 WY=INT(RND(0)*4)+1:YN1=14+(WY*16)
OE 9615 X=USR(1536,LIB1,START+Y1+128,STAR
   T+YN1+128):Y1=YN1
FQ 9620 CW=INT(RND(0)*100)+1:IF CW>50 THE
   N LIB=0:GOTO 9700
AL 9630 LIB=1:G1=5:POKE 53256,1
HJ 9700 REM POSITION KEY
CX 9710 IF KS<>SCR THEN 9800
KM 9720 KY=INT(RND(0)*5)+1:KY=KY*4
ZG 9730 KX=INT(RND(1)*19)+1:LOCATE KX,KY,
   KC:IF KC<>32 THEN 9730
EW 9740 POSITION KX,KY:? #6;")"
DR 9750 PICKUP=PICKUP+1
NW 9800 REM POSITION LOCK
EF 9810 IF LS<>SCR THEN 9900
MV 9820 LY=INT(RND(0)*5)+1:LY=LY*4
HR 9830 LX=INT(RND(1)*19)+1:LOCATE LX,LY,
   LC:IF LC<>32 THEN 9830
CB 9840 POSITION LX,LY:? #6;"%"
DT 9850 PICKUP=PICKUP+1
YX 9900 REM POSITION CHAIN
ET 9910 IF CS<>SCR THEN RETURN
SM 9920 CY=INT(RND(0)*5)+1:CY=CY*4
GY 9930 CX=INT(RND(1)*19)+1:LOCATE CX,CY,
   CC:IF CC<>32 THEN 9930
OQ 9940 POSITION CX,CY:? #6;"#"
DV 9950 PICKUP=PICKUP+1
```

```
DK 9999 RETURN
OH 10000 REM GOTCHA
WC 10005 SOUND 2,0,0,0
AK 10010 GRAPHICS 2:POKE 756,CH/256
FV 10020 POKE HP1,0:POKE HP2,0:POKE HP3,0
   :POKE HP4,0
FU 10030 POKE 16,64:POKE 53774,64:POKE 75
   2,1
VV 10040 POKE 53279,0:POKE 732,0
KI 10050 POKE 712,2:POKE 710,2:POKE 708,1
   93
MO 10060 SETCOLOR 1,1,10
FY 10065 IF LIFE=0 THEN GOTO 10110
RX 10070 ? #6
EX 10075 ? #6;"____________________"
IK 10080 ? #6;"  THE RANDOM MAGIC"
TB 10085 ? #6;"     IS TOO STRONG"
SF 10090 ? #6
IQ 10095 ? #6;"  IT HAS DESTROYED"
WL 10100 ? #6;"      EVERYTHING"
DY 10105 ? #6;"____________________"
ZY 10106 GOTO 10150
RC 10110 ? #6
EC 10115 ? #6;"____________________"
RU 10120 ? #6;"   YOUR MAGIC HAS"
BV 10125 ? #6;"       RUN OUT"
RK 10130 ? #6
JA 10135 ? #6;"  CASTLE BRAINTREE"
AH 10140 ? #6;"      IS DOOMED!"
EO 10145 ? #6;"____________________"
HG 10150 FOR P=15 TO 0 STEP -2
OO 10160 SOUND 0,80,8,P
DO 10170 FOR D=1 TO 15-P:NEXT D
JY 10180 NEXT P
VQ 10190 SOUND 0,0,0,0
FX 10200 REM DEAD MARCH
FR 10210 RESTORE 11010
ZF 10220 FOR Z=1 TO 11
OV 10230 READ NO,LE
VQ 10240 YES=NO+70
JX 10250 SOUND 0,NO,10,8
WH 10260 SOUND 1,YES,10,8
GB 10270 FOR DUR=0 TO 15*LE:NEXT DUR
VP 10280 SOUND 0,0,0,0
WG 10290 SOUND 1,0,0,0
NO 10300 NEXT Z
GI 10320 ? "K":? :? "              PRESS OPTIO
   N TO END"
TV 10340 REM START OR OPTION
PV 10350 POKE 53279,0
BV 10380 IF PEEK(53279)<>3 THEN 10380
XI 10381 X=USR(1536,WIZ1,START+Y1+128,STA
   RT+128)
FC 10382 X=USR(1536,WIZ2,START+Y2+256,STA
   RT+256)
MW 10383 X=USR(1536,WIZ3,START+Y3+384,STA
   RT+384)
UG 10384 X=USR(1536,WIZ4,START+Y4+512,STA
   RT+512)
ZV 10390 GRAPHICS 0:END
RP 11000 REM DEAD MARCH DATA
OU 11010 DATA 81,3,81,2,81,1,81,3,68,2,72
   ,1,72,2,81,1,81,2,85,1,81,4
```

Painting Pictures ...

Welcome to another journey into the Classic PD Zone! Along the way you'll encounter a strange and powerful race of beings. They hail from the planet Atari8 and go by the name of the Pudoso; otherwise known as Public Domain Software. This time they have sent an artist and an entertainer. Shall we see what the have to offer? Here goes ...

Art programs are abundant on the 8-Bit Atari. Commercial releases have included Atari Artist, Technicolour Dream and Design Lab. The public domain is also represented with BBK Artist, GTIA Sketchpad, Graphics Workshop and many others. So, is **Pixel Artist Deluxe** merely another one to add to the list? Let's see ...

Pixel Artist Deluxe (PAD from now on) is described by its author Art Horan as "a feature-packed paint program". It is programmed in Action! and machine language. The program is controlled by a series of menu-bars which are accessed by one of three ways: pressing the spacebar, moving the cursor to the top of the screen, or pressing the right button on a graphics tablet. Almost every option can be directly accessed with the keyboard.

The combination of menu-bars and keyboard makes PAD a joy to use. There are fourteen options on the main menu-bar which runs across the top of the screen: Palette, Draw, Line, Box, Oval, Fill, Rays, Zoom, Where, Undo, Tablet, Clear, Disk and Quit. There are also sub-menus within a number of these options.

The first option on the main menu bar is Palette. There are four main features within Palette: Choose, Set, Speed and Bend.

Choose allows you to control the use of brushes, colours and patterns. All three can be changed both quickly and easily by on-screen selection. There is a range of six brush types, four colours and sixteen patterns to choose from. Additional options at this sub-menu are Spray (an adjustable spray-can effect) and Solid (which allows solid shapes to be drawn instead of outlines).

By selecting Set, you can alter and set the colours and patterns from the complete palette of 256 colours. Two vertical colour bars appear superimposed over your picture. By moving your joystick or tablet stylus left or right you can alter the colour. The luminance of this colour can then be altered by moving up or down. It's as simple as that! Just press the button to select the colour or hit the spacebar to restore the old colour.

You can also design new patterns by picking a section from your picture or choosing colours from the palette.

Speed allows complete control over the speed of the cursor. A fast setting is recommended for a Tablet. This option could be used to slow down a joystick-controlled cursor for young children.

The final option within the Palette sub-menu is Bend. This is an amazing option which allows you to place two bends in a line. You can toggle Bend on and off at this sub-menu. Once activated, you can design curved lines with ease. Just select Line from the main menu-bar and draw a line as normal (i.e. plot beginning - plot end). Next, select the first bend by plotting a third point. A second bend can then be added by plotting a fourth point. It takes a little practice before you get used to the bending process but after a few on-screen scrawls you soon get the hang of it.

There are seven painting options on the main menu-bar. Draw allows free-hand drawing (great for the kids!); Line creates a line or bend between plotted points; the Box option creates on-screen squares or boxes (depending on whether or not the Solid option is activated); Oval is similar to Box except it creates circles and ovals; the Fill option allows you to shade enclosed areas with the current colour; Rays draws a series of lines which radiate from a fixed point; and finally Zoom allows magnified drawing and editing around the cursor (x8 magnification). Both the magnified area and the relevant part of the picture can be seen whilst drawing in Zoom mode.

Before placing any line or shape onto your picture you are shown what it will look like and asked for confirmation. This allows for a last minute change of mind.

Where is a neat little option which gives you the horizontal and vertical coordinates of the cursor. It also temporarily replaces the cursor with a larger flashing rectangle. This is great for identifying the cursor whilst working with a small brush.

Undo is a powerful option which lets you undo your mistakes (very useful when working in the wee hours!). Every time you select one of the painting options above, your work is stored in a buffer area in the computer's memory. If you change your picture and decide you don't like it, you can retrieve the earlier version from the buffer.

By selecting Tablet you can toggle between joystick and graphics tablet control of the cursor. PAD will work with both the Koala Pad and the Atari Touch Tablet. Art Horan mentions in the PAD documentation that the routines for the Touch Tablet are experimental (he only had access to the Koala Pad). However, I used PAD with my Touch Tablet for over an hour and successfully used all the options without any problems whatsoever.

The Clear option clears the screen, and requires an extra press of the button for confirmation (again, very useful when working late).

Disk reads disk directories, and loads and saves pictures in Micropainter or Koala / Atari Artist format. I liked the idea of displaying the first letter of any Micropainter file in inverse (this is of great help in identifying files). At the Disk sub-menu you can also store up to ten configurations of your favourite colour, pattern and cursor speed settings. By entering zero at the prompt, you can change the boot-up configuration.

The last option on the main menu-bar is Quit. This allows a smooth exit to DOS.

As you can see, PAD offers a wonderful range of options and Art Horan is fully justified in describing it as "feature-packed". I still can't believe this program is in the public domain - it is comparable with any commercial 8-Bit art package! The ease with which you control all of the options is amazing. You can use the joystick, tablet or keyboard - whichever you prefer. By using the keyboard you can switch from one option to another by simply pressing two keys.

Almost all of the usual art options are included (only Mirror

and Text are missing). The Zoom option is a big improvement over the AtariArtist equivalent. These usual options are complimented by a wide range of extras. I particularly liked Bend, Airbrush and Where. Also, it was great to be able to control the speed of the cursor - I could slow it down for detailed drawing.

PAD is a very classy piece of programming. Right from the 'turning-page' effect on the title screen to the graceful exit to DOS I was extremely impressed. Art Horan must be congratulated for creating such a wonderful program and releasing it into the public domain. Pixel Artist Deluxe V1.3 is undoubtedly one of the best art programs available for the Atari Classic.

CLASSIC PD ZONE RATING : 92%

in a Surfer's Paradise

"It's a sunny day at Malibu and the smell of suntan lotion lingers in the air. Off in the distance you see some killer waves. You pick up your board, and out you go!"

This is a brief excerpt from the introductory scrolling message to C.A. McClellan and Eric Small's **Surf's Up**. As you've probably guessed by now, Surf's Up is a sports game in which you play the role of a surfer riding the Malibu waves. You must use your skills to avoid a wipe out and become a true Hot Dog.

There are three levels to complete at three increasing difficulty settings (Surfer, Beach Bum and Hot Dog). In other words, to become a true Hot Dog you must master nine wave sessions.

You begin as a Surfer as you enter the first level. Your goal is to paddle out to the surf by using your joystick to negotiate the waves before they crest. If you're on a wave as it crests ... WIPE OUT! Big waves are quite tricky as you must paddle backwards at exactly the right moment. If you're not careful you'll be thrown off your board ... WIPE OUT! However, the bigger the waves negotiated, the more points awarded.

Along the way you can collect floating prizes (umbrellas, suntan lotion, etc.). If you catch six prizes you gain an extra surfer (very handy for later levels).

Now and then a feeding octopus will appear just below the waves. You must pass over him and avoid his grabbing tentacles. If he touches your board you are thrown into the water ... WIPE OUT!

If you manage to paddle over all the waves and avoid the octopus you will soon find yourself approaching a buoy. This signals the end of the level.

The second level is out on the surf. Here you must surf along a wave whilst avoiding rocks, whirlpools, killer sharks and angry turtles. This level is tough. It is quite tricky avoiding all the nasties because you are continually pulled into the wave. You don't have stay right on top of the wave - when you get a chance you can "boogie on out to the prizes and rack up the points". The 3D perspective on this level is a little off and takes a few wipe-outs to get used to it.

In level three you must try to get back to the beach on top of a "knarley wave" (a giant wave to us land-lubbers). However, a tropical storm is brewing and lightning bolts can strike at any time. You must stay on the wave and avoid the lightning bolts to make it safely to the beach.

If you make it through all three levels you are given a message by this real cool surfer dude. Hey, I'm even speaking like a Hot Dog now (man).

You are now a Beach Bum and must battle through the levels again. However, they are now even tougher to master. For example, whilst paddling out to the surf, the octopus feeds a lot faster. Also, you now have to dodge low-flying gulls. It is here that I have a minor gripe: the gulls fly at the same speed as the waves! In other words, if a gull is flying just above a wave crest you cannot avoid it ... AUTOMATIC WIPE OUT! It would have been more sensible to program the gulls to fly slower than the waves. Thankfully, this is corrected on the Hot Dog level (the gulls fly faster than the waves so look out).

By the time you become a Hot Dog everything is really tough! Surf's up offers a challenge for all age groups. I haven't yet become a true Hot Dog but I'm working on it.

I really enjoyed playing Surf's Up. As soon as you load the disk you realise that it's something special - there is a burst of music and the title screen comes surfing into the centre of your TV screen. The graphics are of a high quality and very colourful. The gameplay is great fun on the first two levels. Level three became a little easy but then I did play the game for quite a few hours. The background music throughout is very catchy and creates a bouncy atmosphere for the game (the second verse is brilliant). Good news: if you are wiped out you don't have to begin the level again; you emerge from the water after the next wave. Also, bonuses carry over to the next level.

Surf's Up has the feel of one of those 1983/84 Synapse games. It oozes with quality! You can tell that the programmers were attempting to sell it to a software company (they left the top of the title screen empty so that they could add a name above 'presents'). Why it was never released commercially I'll never know. The game was written in 1984 and I have to say that it is better than many of the commercial releases of the time. Put simply, Surf's Up is a PD sensation dude!

CLASSIC PD ZONE RATING: 91%

Thank-you for flying Air Atari8. We hope you enjoyed your journey. The Pudoso were indeed a very powerful race. I'm sure we will meet them again when we return to the Classic PD Zone next time. Until then ... Segaiscrap (that's Pudosian for keep 8-Bitting!). The Atari Classic: 2001 here we come!

This issues reviews are:

DISK #72 - SURF'S UP

DISK #141 - PIXEL ARTIST DELUXE

with Stuart Murray as your guide

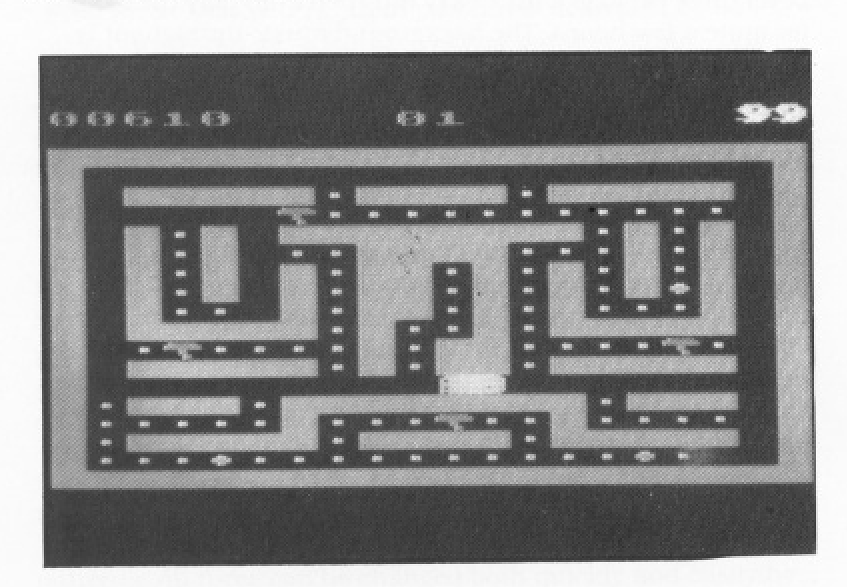
PACMANIA

by John Young

TURBO BASIC

The program is written in Turbo Basic and must be compiled before it can be played (hence there is only one ghost, as the compiler dislikes array arithmetic).

Turbo users might like to note that another feature in Turbo Basic not supported by the compiler, as well as those listed in John White's article in Issue 51, is the use of SOUND on its own to turn off all sound.



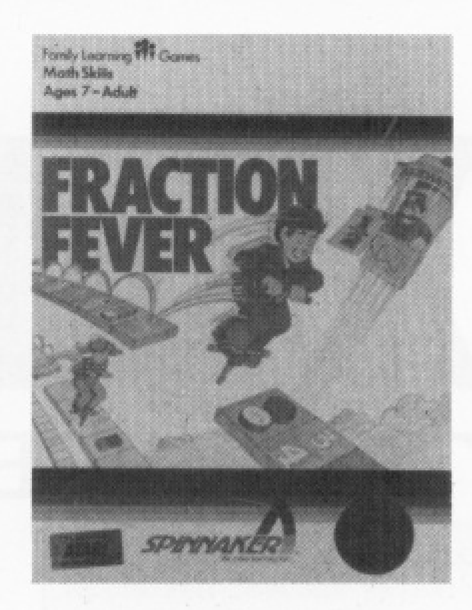
Surely this game needs no introduction. Control your Pacman using the joystick, eating the dots and avoiding the poisonous green mushrooms. Power pills (large dots) let you eat the chasing ghost. The mushrooms change into apples that can be eaten for bonus points.

```
EI 1 REM ******************************
JL 2 REM *           PACMAN           *
RQ 3 REM *             by             *
KK 4 REM *         John Young         *
CM 5 REM * Turbo Basic:needs compiling *
ED 6 REM * -------------------------- *
VN 7 REM *  NEW ATARI USER - AUG 1993  *
EP 8 REM ******************************
NO 9 REM
TY 10 EXEC REDEFINE
DN 20 EXEC COLOUR
AQ 30 EXEC PMINIT
JZ 40 EXEC ARRAY
JC 50 DO
FS 60 EXEC NEWGAME
UL 70 EXEC MAZE
TM 75 EXEC GHDRAW
RO 80 REPEAT
HO 90 EXEC PACDRAW
UF 99 REM        MAIN LOOP
VJ 100 DO
JU 110 ON PACDIR EXEC PACUP,PACRI,PACDN,P
   ACLE
RY 120 PACCNT=PACCNT+%1
NM 130 IF PACCNT=8
DP 140 PACCNT=%0
NN 150 PACH=PACH+HORIZ(PACDIR):PACV=PACV+
   VERT(PACDIR)
KC 160 IF U=5 THEN SOUND 0,100,10,6:SC=SC
   +5:DL=DL-%1:EXEC SCORE:IF DL=%0 THEN S
   OUND 0,0,0,0:EXIT
WM 165 SOUND 0,0,0,0
YN 170 IF U=164 THEN IF APPL:SC=SC+50:EXE
   C SCORE:ELSE :EXIT :ENDIF
NU 180 IF U=6 THEN EXEC POWERON
FX 185 IF PEEK(53260)=2 THEN IF POWER:SOU
   ND 0,50,8,8:EXEC GHDRAW:SC=SC+100:EXEC
    SCORE:ELSE :EXIT :ENDIF
EG 190 PLOT PACH,PACV
FG 200 LOCATE PACH+HORIZ(PACDIR),PACV+VER
   T(PACDIR),U
AC 210 IF U=35 THEN PACDIR=%0
FJ 220 JOYDIR=JOYST(STICK(%0))
MH 230 IF JOYDIR<>PACDIR AND JOYDIR<>%0
XY 240 LOCATE PACH+HORIZ(JOYDIR),PACV+VER
   T(JOYDIR),C
YY 250 IF C<>35 THEN PACDIR=JOYDIR:U=C
IV 260 ENDIF
IX 270 ENDIF
KP 280 EXEC MOVEGHOST
DT 290 IF POWER THEN EXEC SIREN
LH 300 FRUCNT=FRUCNT+%1:IF FRUCNT>500 THE
   N FRUCNT=%0:EXEC FRUIT
LO 310 FOR D=1 TO 24:NEXT D
RA 320 LOOP
```

```
MB 329 REM [redacted]
MV 330 IF DL>%0:EXEC DIE:ELSE :SC=SC+500:
   EXEC MAZE:EXEC GHDRAW:ENDIF
UP 340 UNTIL (LIVES<0)
RG 350 LOOP
KX 399 --
QA 400 PROC POWERON
DN 410 POWER=%1:SIRCNT=%0
EE 420 NTEA=49:NTEB=37:STP=-0.4
SN 430 POWCNT=%0:PITCH=NTEA
TF 440 SC=SC+25
PH 450 EXEC SCORE
WL 455 ENDPROC
KQ 459 --
VB 460 PROC SIREN
FB 470 PITCH=PITCH+STP
MS 475 SOUND 1,PITCH,10,10:POKE 704,211-P
   ITCH
YN 480 IF PITCH=NTEB THEN SIRCNT=SIRCNT+%
   1:A=NTEA:NTEA=NTEB:NTEB=A:STP=-STP
EY 485 IF SIRCNT=POWLEN THEN POWER=%0:POK
   E 704,86:SOUND 1,0,0,0
WE 490 ENDPROC
KY 499 --
SJ 500 PROC SCORE
KI 510 SC$="000000"
PY 520 SC1$=STR$(SC)
UP 530 SC$(6-LEN(SC1$))=SC1$
LO 540 POSITION 0,0:? #6;SC$
VZ 560 ENDPROC
KZ 599 --
KK 600 PROC DIE
WQ 605 SOUND 1,0,0,0
AS 610 NB=17:PACY=PACY-7:POKE 704,14
TB 620 MOVE ADR(ANGEL$),PACAD+PACY,NB
UR 630 FOR X=PACY TO -7 STEP -%1
PE 640 EXEC PACUP
UF 650 SOUND 0,50+X/2,10,8
JQ 660 FOR D=0 TO 30:NEXT D
ME 670 NEXT X
WT 675 SOUND 0,0,0,0
NT 680 IF LIVES>0 THEN PLOT 20-LIVES,0
JC 685 LIVES=LIVES-1
WG 690 ENDPROC
LA 699 --
AD 700 PROC FRUIT
GV 710 MOVE CHBASE+32,ADR(TEMP$),8
CU 720 MOVE CHBASE+56,CHBASE+32,8
HV 730 MOVE ADR(TEMP$),CHBASE+56,8
LH 740 IF APPL:SETCOLOR 2,12,6:APPL=%0
BD 750 ELSE :SETCOLOR 2,3,6:APPL=%1
JA 760 ENDIF
WD 770 ENDPROC
LB 799 --
SJ 800 PROC PACUP
GC 810 MOVE PACAD+PACY,PACAD+PACY-%1,NB
KV 820 PACY=PACY-%1
VW 830 ENDPROC
LC 899 --
ND 900 PROC PACRI
IX 910 PACX=PACX+%1
WQ 920 IF FACING=%0 THEN MOVE ADR(PRIGHT$
   ),PACAD+PACY,NB:FACING=%1
JS 930 POKE 53248,PACX
VZ 940 ENDPROC
LD 999 --
RZ 1000 PROC PACDN
AQ 1010 -MOVE PACAD+PACY,PACAD+PACY+%1,NB
WQ 1020 PACY=PACY+%1
YL 1030 ENDPROC
XP 1099 --
RE 1100 PROC PACLE
WW 1110 PACX=PACX-%1
SO 1120 IF FACING=%1 THEN MOVE ADR(PLEFT$
   ),PACAD+PACY,NB:FACING=%0
CK 1130 POKE 53248,PACX
YQ 1140 ENDPROC
XR 1199 --
OA 1200 PROC GHUP
VE 1210 MOVE GHAD+GHY,GHAD+GHY-%1,NB
SW 1220 GHY=GHY-%1
YP 1230 ENDPROC
XT 1299 --
IV 1300 PROC GHRI
RB 1310 GHX=GHX+%1
BQ 1320 POKE 53249,GHX
YR 1330 ENDPROC
XV 1399 --
EP 1400 PROC GHDN
VA 1410 -MOVE GHAD+GHY,GHAD+GHY+%1,NB
SA 1420 GHY=GHY+%1
YT 1430 ENDPROC
XX 1499 --
DV 1500 PROC GHLE
SF 1510 GHX=GHX-%1
BX 1530 POKE 53249,GHX
YY 1540 ENDPROC
XZ 1599 --
KL 1600 PROC MOVEGHOST
UG 1605 ON GHDIR EXEC GHUP,GHRI,GHDN,GHLE
PV 1610 GHCNT=GHCNT+%1
IR 1620 IF GHCNT=8
AB 1630 GHCNT=%0
ZH 1640 GHH=GHH+HORIZ(GHDIR):GHV=GHV+VERT
   (GHDIR)
LW 1650 LOCATE GHH+HORIZ(GHDIR),GHV+VERT(
   GHDIR),T
IV 1660 IF T=35 THEN WALL=%1
ZG 1670 TRYDIR=0
HG 1680 IF GHDIR MOD 2=1
AE 1690 IF GHH<PACH:TRYDIR=2
RK 1700 ELSE :IF GHH>PACH THEN TRYDIR=4:E
   NDIF
HD 1710 ELSE
OY 1720 IF GHV<PACV:TRYDIR=3
IP 1730 ELSE :IF GHV>PACV THEN TRYDIR=1:E
   NDIF
FS 1740 ENDIF
GA 1750 EXEC TRY
ZF 1760 TRYDIR=0
EV 1780 WHILE (WALL)
TH 1790 TRYDIR=TRYDIR+%1:IF TRYDIR=5 THEN
    TRYDIR=1:GHDIR=GHDIR-1
FN 1800 EXEC TRY
HP 1810 WEND
FO 1820 ENDIF
ZB 1830 ENDPROC
XN 1839 --
JZ 1840 PROC TRY
SI 1850 IF TRYDIR MOD 2<>GHDIR MOD 2 AND
   TRYDIR<>0
FV 1860 LOCATE GHH+HORIZ(TRYDIR),GHV+VERT
   (TRYDIR),T
RR 1870 IF T<>35 THEN GHDIR=TRYDIR:IF WAL
   L THEN WALL=%0
GG 1880 ENDIF
ZT 1890 ENDPROC
YF 1899 --
```

continued

```
FM 1900 PROC REDEFINE
OG 1905 CHP=PEEK(106)-12:CHBASE=CHP*256
SA 1910 POKE 106,CHP:GRAPHICS 1+16
KY 1920 MOVE PEEK(756)*256,CHBASE,1024
IV 1930 RESTORE 3000
QV 1940 FOR CHAR=3 TO 8
EH 1945 IF CHAR=8 THEN READ A
FY 1950 FOR X=0 TO 7
KF 1960 READ A:POKE CHBASE+CHAR*8+X,A
ML 1970 NEXT X
JO 1980 NEXT CHAR
VT 1985 POKE 756,CHP
ZV 1990 ENDPROC
YH 1999 --
JU 2000 PROC MAZE
QU 2002 POKE 559,0
JE 2005 CLS #6:POSITION 0,2
EC 2010 ? #6;"####################";
BZ 2015 ? #6;"#¬¬¬/¬¬¬¬¬¬¬¬¬¬/¬¬¬#";
IZ 2020 ? #6;"#¬#####¬####¬#####¬#";
FW 2030 ? #6;"#¬¬¬¬¬⊡¬¬¬¬¬¬¬¬¬¬¬¬#";
LP 2040 ? #6;"#¬#¬#¬########¬#¬#¬#";
QM 2050 ? #6;"#¬#¬#¬¬¬####¬¬¬#¬#¬#";
OV 2060 ? #6;"#¬#¬#¬#¬###¬#¬#¬#¬#¬#";
QR 2070 ? #6;"#¬#¬#/#¬###¬#¬#¬#/#¬#";
RL 2080 ? #6;"#¬#¬¬¬#¬###¬#¬#¬¬¬#¬#";
ME 2090 ? #6;"#¬#####¬#¬¬#¬#####¬#";
ZM 2100 ? #6;"#¬¬⊡¬¬¬¬#¬###¬¬¬¬⊡¬¬#";
KS 2110 ? #6;"#¬#####¬#¬###¬#####¬#";
ZT 2120 ? #6;"#¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬#";
JE 2130 ? #6;"#¬####¬########¬####¬#";
CD 2140 ? #6;"#¬¬¬¬¬#¬¬¬⊡¬¬#¬¬¬¬¬#";
JK 2150 ? #6;"#¬#####¬####¬#####¬#";
BW 2160 ? #6;"#¬¬¬/¬¬¬¬¬¬¬¬¬¬/¬¬¬#";
EW 2170 ? #6;"####################";
SX 2175 LEV=LEV+%1:IF LEV MOD 4=0 THEN PO
   WLEN=POWLEN-%2:LIVES=LIVES+%1:IF POWLE
   N=0 THEN POWLEN=%2
OF 2177 IF LEV<10:POSITION 9,0:? #6;"0";L
   EV:ELSE :POSITION 9,0:? #6;LEV:ENDIF
TA 2180 COLOR 136:FOR X=1 TO LIVES:PLOT 2
   0-X,0:NEXT X
OL 2185 EXEC SCORE:DL=161
CE 2186 FRUCNT=%0:IF APPL THEN EXEC FRUIT
ZG 2190 ENDPROC
XS 2199 --
GB 2200 PROC COLOUR
MV 2210 SETCOLOR 0,8,4
RR 2220 SETCOLOR 1,1,10
AD 2230 SETCOLOR 2,12,6:APPL=%0
YB 2250 POKE 711,86
UL 2260 POKE 705,14
ZI 2290 ENDPROC
XU 2299 --
CZ 2300 PROC PMINIT
IB 2305 DIM PLEFT$(10),PRIGHT$(10),GHOST$
   (10),ANGEL$(17)
OB 2310 PMP=CHP+4:PMBASE=PMP*256
MF 2320 PACAD=PMBASE+1024:GHAD=PMBASE+128
   0
DC 2325 MOVE 22000,PACAD,512
IZ 2330 RESTORE 3100
QC 2340 FOR X=1 TO 10:READ A:PLEFT$(X,X)=
   CHR$(A):NEXT X
LH 2350 FOR X=1 TO 10:READ A:PRIGHT$(X,X)
   =CHR$(A):NEXT X
KO 2360 RESTORE 3120
DP 2365 FOR X=1 TO 10:READ A:GHOST$(X,X)=
   CHR$(A):NEXT X
AJ 2367 FOR X=1 TO 17:READ A:ANGEL$(X,X)=
   CHR$(A):NEXT X
HV 2370 POKE 54279,PMP
EY 2380 POKE 53277,2
PA 2385 POKE 623,1
ZK 2390 ENDPROC
XW 2399 --
NN 2400 PROC PACDRAW
FJ 2406 POKE 704,86:POWER=%0:SOUND 1,0,0,
   0
LS 2407 MOVE 22000,PACAD+PACY,NB
HH 2410 PACH=9:PACX=120:POKE 53248,PACX
VU 2415 IF GHV<8:PACV=18:PACY=175:ELSE :P
   ACV=3:PACY=55:ENDIF
BP 2420 MOVE ADR(PLEFT$),PACAD+PACY,10
AQ 2430 PACDIR=%0:FACING=%0:PACCNT=%0
MJ 2440 NB=10:LOCATE PACH,PACV,U
YR 2450 COLOR 32
AM 2460 POKE 559,58:POKE 53278,0
ZG 2470 ENDPROC
XY 2499 --
TX 2500 PROC GHDRAW
VQ 2510 MOVE 22000,GHAD+GHY,10
DF 2520 GHH=10:GHX=128:POKE 53249,GHX
FD 2530 GHV=8:GHY=95:MOVE ADR(GHOST$),GHA
   D+GHY,10
SX 2540 GHCNT=%0:GHDIR=%3:WALL=%0
ER 2545 POKE 53278,0
ZC 2550 ENDPROC
YA 2599 --
GF 2600 PROC ARRAY
MA 2605 DIM JOYST(15)
JO 2610 RESTORE 3200
VT 2620 FOR X=5 TO 15:READ A:JOYST(X)=A:N
   EXT X
OP 2625 DIM HORIZ(4),VERT(4)
KF 2630 FOR X=1 TO 4:READ A:HORIZ(X)=A:NE
   XT X
VX 2640 FOR X=1 TO 4:READ A:VERT(X)=A:NEX
   T X
RQ 2650 DIM SC$(5),SC1$(5),TEMP$(8)
ZQ 2690 ENDPROC
YC 2699 --
ME 2700 PROC NEWGAME
MQ 2710 SC=%0:LIVES=%3:LEV=%0:POWLEN=10
LR 2720 POSITION 5,22:? #6;"PRESS START"
LQ 2730 REPEAT :UNTIL (PEEK(53279)=6)
ZD 2740 ENDPROC
YI 2999 --
LN 3000 DATA 255,255,255,255,255,255,255,
   255
DG 3010 DATA 0,126,255,255,24,24,12,12
BN 3020 DATA 0,0,0,24,24,0,0,0
LG 3030 DATA 0,0,24,60,60,24,0,0
EO 3040 DATA 8,16,60,126,126,126,126,60
XR 3099 --
AG 3100 DATA 0,60,126,247,127,63,31,254,6
   0,0
PJ 3110 DATA 0,60,126,239,254,252,248,127
   ,60,0
LV 3120 DATA 0,60,126,90,126,126,66,126,8
   4,0
WI 3130 DATA 0,195,102,36,231,36,231,36,6
   0,126,219,255,255,195,126,60,0
XT 3199 --
ZN 3200 DATA 0,0,2,0,0,0,4,0,3,1,0
NU 3210 DATA 0,1,0,-1
OA 3220 DATA -1,0,1,0
```



FRACTION FEVER

Only a few educational programs have been aimed at older children and Fraction Fever is one such, proclaiming on the box 'ages 7 to Adult'.

Fraction Fever is an arcade game of the platform variety that aims to teach fractions, not only in the accepted sense of mathematics but also visually, so that the learner develops a feel for fractions and is able to estimate quite accurately what relationship part of a given object bears to the whole. The aim in Fraction Fever is to control a spinning top which bounces sideways along a horizontal platform in the centre of the screen, knocking out incorrect answers for points and identifying correct answers to ride an elevator to the next level.

At the top centre of the screen is a fraction expressed in conventional mathematics terms such as 3 over 6 or 7 over 8. At the foot of the screen is a 'Radar' which gives a visual guide of the position of the correct answer on the platform. Each platform is several screens wide so that the radar becomes essential to determine which way to go. When you initially play you will be confused for the instructions seem to indicate that the fractions are counted from right to left along the radar whereas they are really counted in the more conventional left to right. Suppose for example that you need to find the fraction 3/4 (three quarters), you try and judge that distance from the left of the radar and move your top along to the correct position. You will pass on the way visual representations of fractions in the form of say, 8 circles with 4 coloured in. If you bounce on one of these then you score extra points but you need to be careful because each bounce leaves a hole in the platform and if you need to come back you can quite easily fall through to a lower level.

Once you have identified, and bounced on, the correct answer then an elevator lifts you up to the next level. If you are lucky you might go right through gaps in the floors above and jump two or three levels at a time. Conversely if you fall through a hole, and your luck is out, you could go back several levels.

As the levels increase so the manner in which the fractions are depicted changes. At first they are filled circles which you can get used to quite quickly but they later change to squares, bar graphs and alternative mathematical numbers such as 1/2 for 3/6. When the symbols are all mixed up it becomes much harder to think quickly and identify the correct answer. You have 20 levels in all and by the time you reach the top your mental arithmetic skills will be finely honed.

Fraction Fever is much more of an arcade game than most educational software and can easily be played as a straight game. Where it scores is that the player almost subconsciously learns the concept of fractions and begins to very quickly estimate parts of a whole. This is very similar to exercises a child will come across in school and will be useful in all sorts of situations in later life.

Fraction Fever scores highly as a simple game and an educational tool and will not be wasted on any child who is beginning to learn more advanced maths. It comes on a ROM cartridge so you just plug in and go. At £8.95 it is not a bad investment and will teach the concept of fractions to whoever is playing whether they realise they are learning or not.

Title:	***FRACTION FEVER***
Publisher:	**Spinnaker Software**
Supplier:	**Micro Discount**
Format:	***ROM cartridge***
Price:	***£8.95***
Reviewer:	***Les Ellingham***

QUICK ED

This program lets you re-design your Atari's character set. Why should you want to do this? Well, you might want to add a touch of class to your text-based programs or maybe form a detailed backdrop for a game using several characters merged together. With Quick Ed you can carry out the process quickly, easily and with several useful tools at hand.

First you must select an input device. There's a generous choice of joystick, ST mouse or touch tablet. For users of the latter a paper template is supplied so it's easy to locate the functional areas. This also opens up the possibility of designing your characters on photocopied paper grids and transferring them to computer via the touch tablet. At last another use for the tablet!

Quick Ed's screen area is divided into five sections. At the top left there's a box containing the characters available for re-definition. To choose a character, you move the screen pointer over the character required and press a button - the character is then transferred to a large 8x8 grid in the centre of the screen. At the top right there's an area you can use to store characters - perhaps to check how they look when placed alongside each another. To the left of the main grid there are some icons that give you access to the principal functions. You can load and save character sets, view the standard Atari set, copy characters between different sets (Quick Ed can deal with two sets at once) and select the one you want to work on. To the right of the main grid there's a selection of drawing facilities.

Editing a character couldn't be easier. You can point at individual squares of the grid and click to toggle them 'on' or 'off'. The drawing options let you scroll the character in any direction, mirror the design in a horizontal or vertical plain, clear or fill the grid and invert the current definition. Unfortunately the instructions don't explain how to use the resulting data in your own programs, though it's a relatively straightforward process of loading the numbers into free RAM and pointing the character base register (756) to the correct location.

In conclusion, if you're looking for a good character set editor ... this is it!

Quick Ed is distributed in the UK by Dean Garraghty, 92 Thomson Avenue, Balby, Doncaster, DN4 0NU.

Title:	***QUICK ED***
Supplier:	***PPP/Dean Garraghty***
Price:	***£ 5.00***
Format:	***Disk***
Reviewer:	***Paul Rixon***

COLOUR EXTEN SUBBROUTINE

John Foskett has banished the boring Graphics 0 screen forever with this exciting routine for multi-coloured text screens

The Colour Extension Subroutine or CES was written as an extension to Graphics 0, to provide a colourful screen for displaying text such as in an adventure game, etc. Each Graphics 0 line and the characters printed upon each line can be coloured independently. However, the rules for Graphics 0 must still apply, in that the character colour is merely a different brilliance of the line colour that they are printed on.

For text input purposes such as that required for an adventure game, a flashing cursor is provided, also all the inverse characters flash along with the cursor to enable flashing prompts, titles, warnings, etc. to be used.

A keyboard lock is provided to ensure that only uppercase characters can be typed from the keyboard for text input purposes, again, such as for an adventure game.

CES contains its own modified Graphics 0 display list which enables a lined screen to be used. Also it disables the attract mode and disables the Control-1 stop-start facility.

CES DESCRIPTION

CES is a machine code program that is VBI and DLI driven, therefore its operation is completely independent of Basic. CES uses four of the unused page zero registers, two for its own use and two to interface with Basic to enable it to be controlled.

Loaded into page six, CES consists of five sets of data and alters three vectors to point to the correct parts of CES. The five sets of data are the VBI data, the DLI data, the line colour data, the character colour data and the modified display list data.

THE COLOURS

As stated above there are two sets of data which control the colours, they are the "Line Colour Data" and the "Character Colour Data". Both sets of data consist of 23 statements each to control both the line and character colour for lines 1 to 23. The first statement found in each set of data controls the colour of line 1 and the colour of the characters on line 1 respectively, the second data statement in each set, controls line 2, the third, line 3, etc. Line zero (the top line) is controlled by registers 709 and 710 (or the SETCOLOR commands) in the normal way.

Since the DLI section of CES is constantly reading the data from where it is stored in page six, it is just a matter of poking the correct register to alter a certain colour. Once poked the colour will remain until it is once again altered.

The location in page six for the colour of line 1 is location 1619, for line 2 is location 1620, up to location 1641 for line 23. The location for the colour of the characters on line 1 is 1642, the characters on line 2 is 1643, up to location 1664 for the characters on line 23.

THE KEYBOARD LOCK

CES makes use of location 203 to control the keyboard lock. When this location contains a zero, the keyboard lock is disabled, allowing the use of all the usual characters, but when this location contains a non-zero value, the keyboard lock is enabled allowing only uppercase characters to be used.

The keyboard lock ensures that the keyboard is locked into the uppercase mode even if the CAPS key or the inverse key is accidentally pressed.

When the keyboard lock is enabled, all lowercase and inverse characters can still be printed to the screen, the keyboard lock merely prevents them from being typed in at the keyboard. This register may be altered under program control.

THE FLASHING CURSOR

CES uses location 204 to control the cursor flash. When location 204 contains a zero, the cursor and all inverse characters assume their normal state (i.e. not flashing). When this location contains a non-zero value, the flashing of the cursor

continued ☛

NSION

```
QB 10 REM ┌──────────────────────────────┐
HC 20 REM |COLOUR EXTENSION SUBROUTINE |
RG 30 REM |          (or CES)          |
YF 40 REM |         Written by         |
PW 50 REM |John Foskett   November 1992|
IO 60 REM |     For New Atari User     |
JY 70 REM ├──────────────────────────────┤
LC 80 REM |   Dedicated to my mother   |
QH 90 REM └──────────────────────────────┘
FT 100 REM  CES Subroutine 
EH 110 GRAPHICS 0:RESTORE 170:I=0
OA 120 READ J:IF J>-1 THEN POKE 1536+I,J:
   I=I+1:GOTO 120
YY 130 REM  Set-Up Registers 
QG 140 POKE 54286,0:POKE 548,0:POKE 549,6
   :POKE 512,57:POKE 513,6:POKE 54286,192
   :POKE 560,129:POKE 561,6
QB 150 POKE 203,1:POKE 204,16
WS 160 REM  VBI Data 
SD 170 DATA 72,169,0,133,77,141,255,2,133
   ,209,230,208,165,203,240,10,169,0,141,
   182,2,169,64,141,190,2,165,204,240
UD 180 DATA 17,165,208,37,204,197,204,240
   ,9,208,12,141,243,2,104,76,138,194,169
   ,2,76,40,6,169,0,76,40,6
UG 190 REM  DLI Data 
PC 200 DATA 72,138,72,230,209,166,209,234
   ,234,234,189,82,6,141,24,208,189,105,6
   ,141,23,208,104,170,104,64
JP 210 REM  Line Colour Data 
OO 220 DATA 148,148,148,148,148,148,148,1
   48,148,148,148,148,148,148,148,148,148
   ,148,148,148,148,148,148
JV 230 REM  Character Colour Data 
MQ 240 DATA 202,202,202,202,202,202,202,2
   02,202,202,202,202,202,202,202,202,202
   ,202,202,202,202,202,202
MR 250 REM  Modified Display List 
UV 260 DATA 112,48,194,64,156,0,130,0,130
   ,0,130,0,130,0,130,0,130,0,130,0,130,0
   ,130,0,130,0,130,0,130,0,130,0,130
EY 270 DATA 0,130,0,130,0,130,0,130,0,130
   ,0,130,0,130,0,130,0,130,65,129,6
AX 280 REM  End of Data Marker 
GP 290 DATA -1
YU 300 REM ----------------------------
QQ 310 REM
QS 320 REM
QU 330 REM
ZC 340 REM ----------------------------
YP 350 REM  AN EXAMPLE PROGRAM 
ZG 360 REM ----------------------------
TX 370 TRAP 670:POKE 752,1:POKE 1624,176:
   POSITION 1,6:? "PRESS START TO SEE THE
   EXAMPLE PROGRAM"
CL 380 IF PEEK(53279)<>6 THEN 380
IY 390 POKE 559,0:DIM A$(36):A=16:B=0:C=1
   4
TF 400 RESTORE 400:FOR I=1 TO 5:READ J:PO
   KE 1620+I,J:NEXT I:POKE 710,20:DATA 17
   6,144,64,16,48
DM 410 ? "K  E X A M P L E     P R O G R
   A M   ":? "↓↓ COLOUR EXTENSION SUBROUT
   INE or CES"
KY 420 ? "▶▶Written by":? "▶▶←John Fosket
   t":? "▶    For New Atari User"
CT 430 ? "   Dedicated to Muriel, my moth
   er"
YJ 440 REM  Colours 
HP 450 POKE 1629,52:POSITION 2,11:? "HIGH
   LIGHTING OPTIONS: A MENU PERHAPS"
ZH 460 FOR I=1 TO 8:POKE 1630+I,180:POSIT
   ION 2,I+12:? "Menu option ";I:NEXT I
FC 470 POKE 1640,68:? "↓SELECT CHANGE
    OPTION EXIT":POKE 559,34
DR 480 POKE 1654+I,C:FOR J=0 TO 30:NEXT J
   :POKE 1654+I,10:IF PEEK(53279)=3 THEN
   530
VX 490 IF PEEK(53279)=5 THEN C=14-C
SM 500 I=I+1:IF I>7 THEN I=0
QA 510 GOTO 480
GH 520 REM  Flash Rate 
UW 530 GOSUB 710:POKE 1629,180:POKE 1631,
   68:POKE 1632,68:POKE 1634,52:POKE 752,
   0
AC 540 ? "ALTER FLASH RATE: PEEK(204)=";A
SW 550 ? "↓Enter a number between 0 and 2
   55 and  then press return."
YP 560 POSITION 2,16:? "POKE 204,";:POKE
   764,255:INPUT #16;A$:IF A$="" THEN 610
NF 570 A=ASC(A$):IF A<48 OR A>57 THEN 610
OE 580 A=VAL(A$):IF A>255 THEN 610
YC 590 POKE 204,A:POSITION 30,11:? "   ←←
   ←";A:POSITION 2,16:? "             ":GO
   TO 560
SC 600 REM  Characters 
EN 610 POKE 204,16:GOSUB 710:POKE 1629,18
   0:POKE 1631,68:POKE 1632,68:POKE 1634,
   52
PQ 620 POKE 752,0:? "ENTERING CHARACTERS:
    UPPERCASE ONLY"
FX 630 ? "↓Try entering some lowercase an
   d some  inverse characters....↓"
HL 640 POKE 764,255:INPUT A$:L=LEN(A$):IF
    L<1 OR L>35 THEN 670
GC 650 POKE 1636,176:? "↓You can't enter
   them, can you ???":B=1
BS 660 REM  Re-Run CES 
IN 670 POKE 204,16:POKE 1640,26:POKE 1663
   ,0:POKE 752,1:POSITION 2,22
JC 680 IF B=0 THEN ? " ERROR ENCOUNTERED:
   █";
TC 690 ? " RE-RUNNING CES K":FOR I=0 TO 1
   000:NEXT I:RUN
KJ 700 REM  Clear Screen Subroutine 
QH 710 POKE 752,1:FOR I=0 TO 13:POKE 1627
   +I,148:POSITION 2,I+9:? "
                               ":NEXT I
JK 720 POSITION 2,11:RETURN
```

```
;----------------------------
; DLI for CES   November 1992
;----------------------------


 PHA
 TXA
 PHA
 INC 209
 LDX 209
 NOP
 NOP
 NOP
 LDA 1618,X
 STA 53272
 LDA 1641,X
 STA 53271
 PLA
 TAX
 PLA
 RTI
<END>
```

```
;----------------------------
; VBI for CES   November 1992
;----------------------------


 PHA
 LDA #0
 STA 77
 STA 767
 STA 209
 INC 208
; CHARACTERS
 LDA 203
 BEQ CHARAC
 LDA #0
 STA 694
 LDA #64
 STA 702
CHARAC
; CURSOR
 LDA 204
 BEQ ON
 LDA 208
 AND 204
 CMP 204
 BEQ ON
 BNE OFF
CURSOR
 STA 755
 PLA
 JMP 49802
;-----------------
; CURSOR ON
ON
 LDA #2
 JMP CURSOR
; CURSOR OFF
OFF
 LDA #0
 JMP CURSOR
<END>
```

Source code for the Display List Interrupt and Vertical Blank routines

and all inverse characters is enabled, the flash rate being dependent upon the value location 204 contains.

For an even flash with an equal mark-space ratio (on-off times), the value should be a multiple of two. 16 is the most suitable value which gives a good flash rate. A "1" gives a very fast flicker whilst a value of "128" gives a very slow flash rate. Any value may be used to generate some different flashing effects, it is recommended to experiment with this.

Any time, whether or not flashing is enabled, the cursor may be "turned off" by using POKE 752,1 in the normal way.

A SECOND CLOCK

Although location 208 is used by CES itself to regulate the cursor flash rate, being incremented at each VBI, it may be used as a second clock in the same way as location 20. This location may be PEEKed, but it should not be POKEd. If POKEd under program control, a disruption to the flash rhythm will result.

REGISTER 209

This location is used by CES as a counter to synchronise the colours to the correct screen lines. This location is incremented each time the DLI is called by the display list, which is 23 times. Thus location 209 increments to 23 before it is reset to zero by the VBI. This register tells the DLI where to read the data from in page six to load into the appropriate two hardware colour registers. If this location was to be POKEd under program control, then a sudden flicker of the screen colours will result creating an amateurish and an untidy appearance.

WHY NOT "WSYNC"

The usual way of synchronising the loading of the hardware registers is to use the "WSYNC" register at location 54282. When used, the colours of the lines were found to be rock steady, but they wobbled when text was printed to the screen creating a nasty amateurish appearance. Instead of using the WSYNC register, three "NOP" instructions were used to sufficiently delay the loading of the hardware registers to ensure that the loading is actually done "off screen" providing colours that remained rock steady at all times.

THE DISPLAY LIST

The display list data is a normal Graphics 0 display list modified to call up a DLI interrupt 23 times. Zeros have been included in the display list to produce the lined screen. Some of the lines may be removed by simply removing the relevant zeros to give a partially lined screen. Since the loading routine continually loads data until it reads a "-1", the actual number of statements is therefore unimportant.

THE BASIC LISTING

The Basic listing comprises of CES itself followed by an example program to show some of the potential of CES.

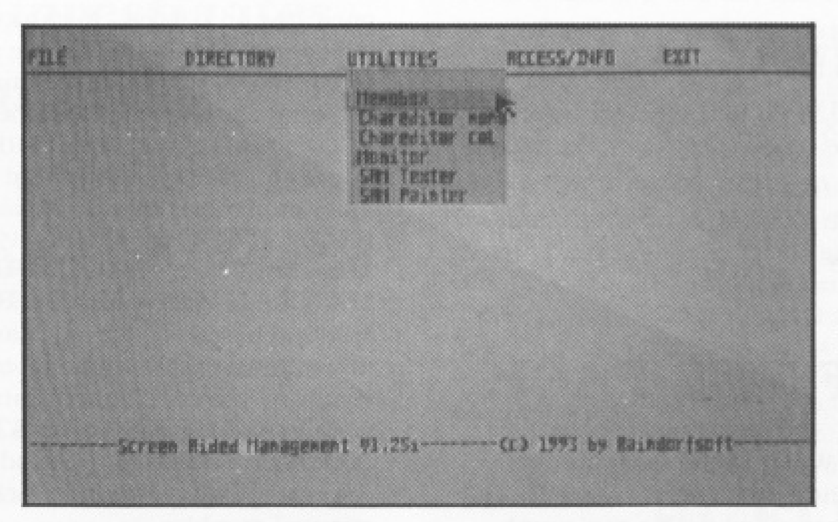
CES is the top part of the listing down to the data statement -1 which is the end of data flag.

Review

THE SAM DESKTOP SYSTEM

reviewed by Paul Rixon

GEM for the 8-bits? Not quite, but SAM - an abbreviation for Screen Aided Management, and not to be confused with the classic Software Automated Mouth - is an 80 column desktop environment for the XL/XE complete with windows, pull down menus, ST mouse support and lots of other GEM-like features. Unlike some other 8-bit OS enhancements SAM requires no tinkering with the hardware. Written by Harald Schonfeld and Andreas Binner and originally published in the 'Atari magazin', the software and accompanying documentation (25 pages of A4 - but no index) have now been fully translated for English-speaking users.



SAM is basically a collection of useful DOS functions together with several inbuilt applications and utilities. The front screen comprises five drop-down menus - File, Directory, Utilities, Info/Access and Exit. To view the underlying options you have to move a screen pointer with the joystick or mouse onto the required menu, and then press the trigger or mouse button. You can then point to the desired function and click again to invoke it. The mandatory 80 column display is quite readable on a monitor though TV users may need to book a check-up at the Opticians!

The File menu incorporates eight common DOS functions: Lock, Unlock, Delete, Rename, Format, Disk Copy, Read Sector and Write Sector (but no Copy File - a strange omission). When the selection of a file is required a window opens up in the centre of the screen and the screen pointer can be used to scroll through a list and mark the chosen item. The Disk Copy option seems excessively keen on disk swaps, though this will be no concern to multiple-drive users. Another niggle is that the Read Sector option seems prone to causing lock-ups if non-sensible values are entered. Otherwise, everything acts as expected. The Directory function is given a sub-menu of its own since, in addition to the expected file listing, there is an option to create and edit Extra Disk Information (EDI). EDI takes the form of up to sixteen 80 character lines which can be attached to a disk and stored without any loss of normal disk space. The idea is to replace the need for 'Read.Me' files, and modestly assumes that the disk's next recipient will also be a SAM user!

Under the Utilities menu you'll find Character Set Editors for designing mono and colour character sets (which can then be used in your own programs), a card filing system, a Memory Monitor, a Text Processor and a paint program. All use the SAM 80-column display and interface methods, including mouse or joystick selection (though sometimes keyboard inputs are required, even when a 'hands-off' method could have been implemented).

SAM Memobox, the card filing system, allows you to create and manage 96 data cards on a specially formatted work disk which may contain up to sixteen lines of 32 characters. A separate catalogue file helps you keep track of the contents. You can subsequently search for specific text (including wildcards) in the catalogue or in the cards themselves. You can also create input masks to simplify data entry and print out the data displayed during edit, show and search options. SAM Texter is a text processor that greatly benefits from the 80 column display mode. You can insert, delete, move, copy and clear text as well as specify margins and alignment. When it comes to produce a hard copy you can select printer attributes such as Pica/Elite, Condensed, Expanded, Bold, Italic and NLQ modes (an Epson compatible printer is required). SAM Painter offers the usual drawing functions such as Line, Rays, Box, Frame, Circle, Fill, Zoom and several others. You can choose from five brush sizes or a spray can effect and include up to 128 colours in one picture! The end result can then be saved to disk and printed using eight grey-scales.

Finally, the Access/Info menu provides a launching pad for SAM accessories which are available separately from the publisher or can be written by those familiar with assembler. It's important to note that normal machine code or Basic programs can't be invoked from the SAM desktop - you should think of it as a completely new operating system. SAM Fireball is supplied as an example accessory and will be well received by Breakout fans. This variation of the game (which also uses the standard SAM interface) has four difficulty settings ranging from beginner to invisible!

SAM is, without doubt, an extremely clever feat of 8-bit programming. Its usefulness as a desktop system is diminished by its inability to launch 'normal' programs though the inbuilt accessories provided, and the option to add more, go some way to alleviate this problem. TV-based users are unlikely to be satisfied but others should be impressed by the innovation.

The SAM Desktop System *is published by Power Per Post of Germany and distributed in the UK by Dean Garraghty, 92 Thomson Avenue, Balby, Doncaster, DN4 0NU. The price is £12 plus £1 to cover the cost of postage and packing.*

LIGHTS, ACTI

You probably know the Atari Classic by his arcade games. This time I'm going to tell his story under the Hollywood lights. There is quite an amount of software adapted from the big screen to the screen of our machines which might seem obvious when your consider that Atari was owned by the movie producer Warner! I will present you all of them, or rather all of which I know and have played with on the XL/XE, converted from movies, TV series or cartoons.

LEADER OF THE PACK

I will begin with a little trivia. Which is the most productive firm for these adaptations on the 8 bit? The winner is DATASOFT with seven adaptations among which we can count ZORRO, GOONIES, CONAN, DALLAS QUEST, NEVER ENDING STORY, BRUCE LEE and 221B BAKER STREET (as it relates to Sherlock Holmes).

Let's begin to explore the Datasoft world with **THE GOONIES**, adapted on XL in 1985 from the Warner Bros' release and which really respects the soul of the movie. The programmers have succeeded in keeping the team together by having two characters controlled by only one player with several screens in which you have to think of the appropriate action which will enable you to pass on to the next level. Each action is straight out of the movie like making the money machine maker work. A great success from Datasoft as almost every adaptation from this software house has been, perhaps one of the best in XL history!

Next came **ZORRO**, produced the same year, which really puts you in the same world as the hero's one, that is to say the ranch, bar, cavern, fortress, etc. allowing you to fight the soldiers and also to solve the puzzles and consequently adopt the right action for each screen. A game that can't be missed anyway (except for the boring music) as it neatly combines action and reflection. You do have to take care which version you use as two versions have been produced, one for tape users and another for disk users which has more screens. Let's have the last one for more fun!

I have seen Schwarzy in **CONAN THE BARBARIAN** but I didn't like the computer adaptation produced in 1984 as the colours aren't great and the character throws his sword really far killing everything on his way ahead and back. Not one of the best.

THE FIRST MOVIE

You probably wonder what are the first and last adaptations on XL from the movies. The first movie game translation was **DARK CRYSTAL** from Sierra-On-Line released in 1982 (hey, that's 11 years ago and I am still using my XL!). This comes on three double sided disks, that is to say that this first one came on 6 sides - a feature length game? This is a classic adventure game based on the movie's story, where you can talk with those strange creatures seen in the picture.

Talking about adventure type games, I have had a look at the SCOTT ADAMS / ADVENTURE INTERNATIONAL titles which appear to refer to movies, and discovered that a significant amount of movie based software had been produced: **MISSION IMPOSSIBLE** (1982), **HULK** (1984) - but where is Bruce Banner?, **SPIDERMAN** (1984), **BUCKAROO BANZAI**, **HUMAN TORCH** and **THE THING** (1985). These kind of games are very similar and it is quite difficult to be really addicted to them as graphics are not so great and they are without music. On the contrary, adventures such as **DALLAS QUEST** or **THE NEVERENDING STORY** are good enough to recover the spirit of the cinema with elements such as music, people, text and adapted graphics.

HI SPOCK!

On the TV side, series like STAR TREK have given life to software adaptations on the XL as far back as 1983 with a game based on the movie produced by Paramount Pictures. Hi Spock! Sega produced a nice **STAR TREK** version where your spacecraft has to clear each zone from the aliens. The upper part of the screen seemed like Asteroids, and the lower part had a sight screen and a bigger view of the aliens coming near.

Also from Sega is **BUCK ROGERS "Planet of Zoom"** produced in 1983 in which you are piloting a spacecraft in a 3D area and have to pass between two tower locations as well as avoiding and destroying alien spaceships. This game had a very original concept when it went out in stores. It has been used 6 years later in the Atari version of **CYGNUS X1** produced in 1989 in which the background is perhaps nicer than the Sega's version but presents less interest due to the existence of only one alien spaceship to be destroyed at a time and to the difficulty of moving your spaceship. Moreover, the Sega's XL version can be joystick or keyboard driven, offers 5 lives and a really better animation whereas the above mentioned Atari game offers only 3 lives.

GREETINGS PROFESSOR FALKEN ...

With those famous three words, you have probably recognised "Joshua", the computer of the movie **WARGAMES** which (or I should say who) began the "global thermonuclear war". The XL version of this movie was produced by Coleco in 1984 under a licence from United Pictures. It is really addictive as it puts you in front of the same situation described in the movie,

ION ...

Patrice Robert investigates the adaptations of big movies, series, comics and cartoons to the Atari Classic

where you see missiles, strikes points and satellites moving around the USA on your computer screen. The "defcon status" and the time remaining displayed on the board hang you to the movie's atmosphere.

This game makes me think of modern times where information, its access and its ownership means power and money. It reminds me of Activision's strategic game **HACKER** where the information has to be tracked along with several spies in order to complete a full page message. If you saw the recent movie SNEAKERS starring Robert Redford, you probably have a better understanding of what I mean. The Atari 8-bit is also an example of this technological war that has just begun. That sometimes make me think that the world is going crazy when looking at the incredible penetration of the computer in modern societies just ten to twelve years after its introduction in most firms.

MY NAME IS BOND ...

Talking of information and spies reminds me that I haven't yet mentioned THE spy. I mean 007, **JAMES BOND**, who has also been adapted twice to XL world.

Firstly came the Parker game, in 1984, where you control a speedboat and later, in 1987, he appeared in Domark's **LIVING DAYLIGHTS** (see Atari User Vol. 3 No.4, August 1987, page 8) which includes 8 levels, in which 007 has to shoot the enemies (as he has a wide range of weapons), and avoid the bullets. The most outstanding thing about this game is that every level puts you in a really multi-horizontal scrolling scenario and offers multi-screen action full of colours. The concept of this game could be taken to create a light-gun driven game. It would be a success!

USE THE FORCE LUKE!

According to my 8-bit knowledge, the only movie to have been adapted several times on the XL/XE is **STAR WARS**. The first time was from Parker who released a cartridge representing a spaceship fight whose scenario was based on the STAR RAIDERS ROM from Atari. Then came **THE EMPIRE STRIKES BACK**. Finally, **THE RETURN OF THE JEDI** ended this trilogy all three parts of which have been adapted. Before that Domark (initially developed by Zeppelin) produced its own version of the original first part, **STAR WARS** (see issue 39 of N.A.U., page 45). Both the Parker and the Domark/Zeppelin versions are very similar as they sit you in the cockpit of a spaceship trying to destroy those X-wing fighters and finally the Death Star. Three parts of the movie are represented from the X-wing scene, via the growing towers, to the inside of the Death Star.

Well, that's four games from a movie trilogy adapted to our 8-bit machine, not so bad for a single concept movie! But what a movie wouldn't you say!

WHO YOU GONNA CALL?

GHOSTBUSTERS on XL from Activision (see Atari User from October 1986, vol. 2 No. 6, page 16) was one of the biggest movie conversions to the 8-bit world. The introduction speech synthesis recreates perfectly the atmosphere of the movie. This adaptation from the Columbia Pictures' movie lets you drive special anti-ghost cars through invested towns and finally face the Marshmallow man. Quite every machine must have an adaptation of this movie. Well done Activision! But why didn't you produce the second part which appeared on ST and Amiga?

Hi, ELLIOTT!

If you had a VCS from Atari in the 80's, you can't have failed to play **E.T. PHONE HOME**. On the XL/XE, the graphics are clear and well coloured, starring Elliot who tries to recover all the phone pieces. If you succeed in assembling all the pieces and go in the right place in the forest, you will see the mother spaceship landing and will hear the digitized voice of E.T. A classic game that must have been played and known by every Atarian. I just regret one thing which is that when Atari was a Warner company, it could have produced more movie adaptations on the 8-bit micro of this stature.

MORE STRANGE PEOPLE

During this short review, you probably couldn't have failed to notice that many games converted from movies began life in the comics - Hulk, Human Torch and the Thing etc. I would really like to see more of them on our machines and why not an arcade version of the X-MEN, THOR or the SILVER SURFER?

On the cartoon side, Walt Disney have starred Mickey Mouse on the XL in **MICKEY IN THE GREAT OUTDOORS** (see Atari User vol. 4 No. 7, November 1988, page 10).

Some cartoon characters have recently come along to the XL/XE, like the famous Hanna-Barbera ones in **YOGI BEAR** (Greed Monster and Great Escape - see N.A.U. issue 51, page 41) and also RUFF & REDDY (see N.A.U. issue 49, page 42), both from Hi-Tec. According to my knowledge, these are some of the latest conversions from cartoons to our 8-bit machine. **DONALD** from Ke-soft, produced in 1992, is the most recent one, with master music pieces from Rondo Veneziano which really sound great. You should hear it.

continued ☛

WELCOME TO THE JUNGLE!

Coming from "out of the jungle" as the title says is not only initially a comics star, but also a TV and movie star who has appeared in many different bodies but stayed the same good man to the animals. You recognise him, of course, **TARZAN**. Converted to our machine by Coleco (who first developed it for their game console on ROM cartridge) in 1984, the Edgar Rice Burroughs' character, Tarzan, evolves among monkeys, gorillas, hidden snakes and bananas, and jumps from creeper to creeper, climbs trees, dives in the river and swims and is even pursued by crocodiles. As in his movies, your XL character has to liberate the monkeys from the hunters who also try to shoot him. Atari had exploited the same topic in 1982 with **JUNGLE HUNT**, based on the game of Taito America called Jungle King, itself based on the character of Tarzan or Indiana Jones. This game offers 4 different action screens and horizontal scrolling, both well designed, and a wonderful jungle background with a great amount of colours, especially those green shades. Both are worth playing.

MANY REGRETS

One of my biggest regrets is that when Atari belonged to the big movie producer, WARNER Communications, it didn't decide to make games of their biggest productions. They would have been a huge success! This makes me think of FIREFOX, which was produced by the Warner team and about which I had saw a advert in an issue of the French magazine 'Tilt', saying it was to be adapted on C64, Apple and Atari XL. Has anybody seen the XL version?

However, the big movies have been explored by some software producers such as Activision who didn't buy the rights of the movie "Indiana Jones", but published two games based on his character, which were both a huge success in the XL/XE world. I speak of **PITFALL 1** and **PITFALL 2**, respectively released in 1982 and 1984. Lucasfilm, the movie producer of "Raiders of the Lost Ark" (you will note that the under title of PITFALL 2 is "lost caverns" not so far from the second's title episode, is it?) could have adapted their movie to the Atari as they produced many excellent games for the XL like Ballblazer, Eidolon, Koronis Rift and Rescue on Fractalus, are all examples of their superb talents.

However, David Crane, the creator of the Pitfall series has created a similar character to Indiana called Harry Pitfall, presented as an adventurer, that had to be guided through a maze of jungle scenes, trying to collect the most treasures in the shortest possible time. Didn't this make you think of a well known scenario? Congratulations are due to the programmer who included in his games the much needed elements to make the player feel as close as possible to the movie star. There are jungle creepers, treasures, snakes, scorpions, ladders, dangers, traps ... and you find yourself guiding a hero that had to jump onto crocodiles' mouths to pass some quicksands, and trek into deeper forest by underground and skyborne actions! David Crane must have hit the jackpot when he released those games as they are very similar in spirit to the referred movie. Being not a fool, he did it again with GHOSTBUSTERS, which, according to the Activision's advice, has sold over 500,000 copies in the all-format computer world.

I think Activision's programming team well understood the point that success can be close at hand by taking a movie's hero and his environment and then including both in a computer game. **MASTER OF THE LAMPS**, produced in 1985, has also explored the old movie theme of Ali Baba. Sit on a magic carpet and you are flying in the air in an outstanding 3D action scene before meeting a genie.

However, some big movies such as RAMBO or COMMANDO which both exist respectively for the ST and the VCS, haven't been turned on to the XL/XE. Why not?

FIGHTING FIT

Many of us would have liked to see those big fight movies on our computer screens but don't be too disappointed, some other titles give an alternative way of destroying those 'bad guys'. For the specific killer player, take a look at **GREEN BERET** from Image Software, which includes horizontal scrolling but lacks the final touch that puts a game up at the top. There are, however, very nice backgrounds during the player's evolution. In the same mould, **WHO DARES WINS II** from Tynesoft offers a vertical fighting progression but is no more successful than the previous one. And then came **LOS ANGELES SWAT** (also based on an old TV series called SWAT) starring a team of three cops guided by yourself through a town under siege in which you have to clear enemies throwing grenades at you, without killing those quiet grandfathers walking down the street.

More recently I discovered **OPERATION BLOOD** from Mirage and ANG software which is graphically very near the classic OPERATION WOLF. Those Polish programmers are really good!

What I've always been waiting for, however, is JACKAL from Konami which even had published an advance notice for the XL version in Atari User (see Issue of Nov. 1987, vol. 3 No. 7, page 2). Did it ever appear?

GOING THE OTHER WAY

Some software publishers feel the need to get movie stars converted to their games as it probably boosts their sales, but some computer characters have taken the opposite path from the computer to TV. I want to speak of the greatest Mister of all computers, **PAC-MAN** who was converted to cartoons some years ago and **POLE POSITION** has also followed the same way. What a success for NAMCO and ATARI, respectively creator and publisher. Some others like **MARIO** have a great career and, of course, **SUPER MARIO BROTHERS** has just been released in the cinema. What about MONTY, the hero of Montezuma's Revenge who could have made nice transformation to the big screen as well as Q BERT. Both, however, have stayed in the shadows.

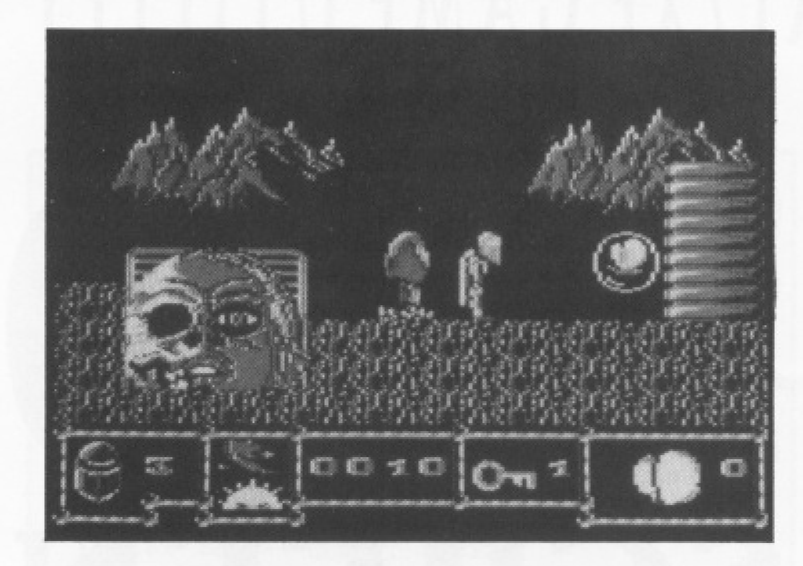
Each adaptation gives life to my Atari and creates fun in my own life because when I play one of these games I remember the movie or the cartoon I saw when I was kid. But these adaptations are not just echoes of the past as Ke-soft, Hi-Tec and ANG software are continuing the tradition with more recent adaptations. DONALD and other Hanna Barbera dedicated games are proof of it!!

I hope that you have enjoyed this trip to the movies and, maybe, found out about a few games that you didn't know existed. As a conclusion, I would like to roll the credits and say hello to some French friends of mine who form a major part of my Atarian life. Hi to Jean-Claude, Pierre-Andre, Christian and many more. I know that they are all subscribers to this great magazine and will read my article if published.

I also would like to say hello to Atarians all over the world who can write to me if they want:

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DARKNESS HOUR



Introducing the latest Polish import from Micro Discount - called DARKNESS HOUR. This one's an arcade adventure with plenty of levels, loads of screens and seemingly no shortage of action.

According to the instruction slip (not to be sneezed at - or you might lose it!) an evil sorcerer has invaded your country and bewitched the souls of its faithful knights. They have all been transmogrified into butterflies and scattered far and wide across the land. Your task, of course, is to search for and rescue these strangely encapsulated creatures so that law and order may be restored. As the souls are only visible at night you have a very limited timescale in which to complete your mission (a clever 'rising sun' indicator gives you a fair idea of the period remaining) and various nasty guards help to ensure that your progress isn't too straightforward.

In order to locate the five captured souls on each level you're required to run around the levels and find keys to open doors, some of which are intended to catch you out as they don't actually lead to anything worthwhile. Some areas are protected by animated nasties which you can eliminate with your unlimited supply of swords (just as well since otherwise they instantly kill you on contact). You can also jump onto, or over, other obstacles. Transporter pads help to move you around the levels though some problems will only be solved through trial and error over several attempts - annoyingly, you've got to start from the beginning when your lives are depleted or the time limit expires.

The main playfield and other objects, including your own character, are relatively large in size and therefore clearly defined. The scenery is nicely shaded and generally well designed, using a variety of styles over the different levels. Animation is also beyond criticism. The screens 'flip' as your character moves across the boundary into new locations and the joystick response is predictable, giving the game an approachable feel. A series of boxes below the playfield illustrate your current holding of keys, lives and souls. Appropriate music - which can be silenced - accompanies the action.

Aside from the inability to resume play on a previously completed level, Darkness Hour is a very competent game with a strong quality of addictiveness and many commendable features. Arcade adventure fanatics would be well advised to investigate.

Title:	**DARKNESS HOUR**
Publisher:	**Avalon/Micro Discount**
Price:	**£5.95**
Format:	**Disk**

Reviewed by Paul Rixon

MINESWEEPER

In issue 60 I reviewed a new game from Ke-Soft called Bomb and mentioned that it was based on a PC Microsoft Windows program named Minesweeper. Now, from PPP of Germany comes none other than ... MINESWEEPER!

Naturally there's little difference in the nature of gameplay, though PPP's version is more faithful to the Windows original. The playfield comprises a grid of squares, hidden under some of which are dangerous mines. Your objective is to correctly distinguish the clear squares from those that contain mines. When you uncover an empty square, a number is displayed to inform you the number of mines located in the adjacent squares. Using rules of logic (and occasionally pure luck) you can gradually 'sweep' the entire grid. You must use an ST mouse or joystick to click a screen pointer over the clear squares. It's also useful to pinpoint the mined squares so you don't inadvertently select them later, but to do this you've got to hold down the shift key as you click on the button. This is not exactly easy when two hands are required for the joystick, and unnecessary when using a two button mouse - I can't help feeling the author could have chosen a better method.

The game offers four levels which differ in the number of squares and the corresponding intensity of mines - from an 8x8 grid to a massive 30x20 variety. There's a time restriction of 10 to 60 minutes though you'll need to do a lot better than this to achieve a good placing in the disk-stored high-score (or low-score) table. The program maintains a different table for each level so there's no confusion when comparing times.

Minesweeper scores more highly than Bomb in the graphics department. Although simple, the display is well drawn and incorporates some nice effects - indeed, it's a fine advertisement for the Quick programming language used to develop the software (see review elsewhere in this issue). My only criticism is that the squares could be slightly larger, as the smallest grid appears rather lonely in the centre of a mainly blank screen! If PC Minesweeper is anything to judge by, this game should be very popular indeed.

Minesweeper is distributed in the UK by Dean Garraghty, 92 Thomson Avenue, Balby, Doncaster, DN4 0NU. Dean also distributes the PPP games Rubber Ball and Glaggs It, both of which received favourable reviews in Issue 53.

Title:	**MINESWEEPER**
Publisher:	**PPP**
Distributor:	**Dean Garraghty**
Price:	**£5**
Format:	**Disk**

Reviewed by Paul Rixon

XL/XE GAME UTILITY

BOULDERDASH

SCREEN COPIER & ORGANISER

The main aim of this program is to copy your Boulderdash game screens created from the Construction-Kit in one pass. Prior to the existence of this utility, copying my Boulderdash game-screens was a bit of a drag, to say the least! With a one drive system it was occasionally necessary to swap between the source and destination disks about 40 times just to copy 20 screens!

Being a Boulderdash Freak, I have made over 180 screens and copying them one at a time was out of the question, so I wrote this utility!

The program is fully remarked and shouldn't need much explanation.

INPUT

Type in the listing and save it to a formatted DOS 2.5 diskette. When you run the program, it will ask you to insert the source diskette that you want to copy the game file from.

If there are any game files on the inserted disk, they will be listed on the screen. Just type in the game filename along with its .GAM extender and the program will read in all the screens.

OUTPUT

The output disk must already be DOS formatted, and when you confirm your output with a "Yes" prompt, the game will then be written to the destination disk in the drive.

The program also allows you to write the same game again, otherwise it will re-run.

ORGANISATION

There is also one other feature that the program offers. All the screens in the output game file will be written in the order they are played. This reduces loading time, as well as wear and tear on the drive head jumping up and down the disk.

Well, if you are a Boulderdash freak like me, I hope you will find this program as useful as I STILL do!

```
QK 1 REM ******************************
VM 2 REM *     BOULDERDASH SCREEN     *
VL 3 REM *    COPIER AND ORGANISER    *
KF 4 REM *    by Andrew C. Thompson   *
IZ 5 REM * -------------------------- *
FO 6 REM * NEW ATARI USER - AUG 1993 *
QQ 7 REM ******************************
NN 8 REM
ZC 132 REM *→ INIT
RE 134 REM
PW 136 DIM D$(19),E$(15),CIO$(7),L$(82)
GR 138 DIM G$(640),F$(40*13+8),S$(1)
QU 140 REM
XT 142 REM *→ INSTRUCTIONS
RG 144 REM
TG 146 GRAPHICS 0
UF 148 LIST 110,126
CO 150 ?
YU 152 ? "THIS PROGRAM WILL COPY YOUR"
TB 154 ? "BOULDERDASH GAMES OF UP TO"
TI 156 ? "40 SCREENS IN ONE PASS"
DM 158 ?
IY 160 ? "THE FINISHED COPY WILL BE"
AX 162 ? "ORGANISED SUCH THAT ALL THE"
CY 164 ? "SCREENS WILL BE IN THIER"
FG 166 ? "CORRECT PLAYING ORDER"
RW 168 REM
YK 170 REM *→ SOURCE
RG 172 REM
GJ 174 I=1
OT 176 GOTO 178+4*(I>0)
DQ 178 ?
GB 180 ? "NO GAMES ON THIS DISK"
DA 182 ?
KU 184 ? "INSERT YOUR BOULDERDASH"
PN 186 ? "GAME DISK"
DS 188 ?
VE 190 ? "PRESS RETURN";
TV 192 KEY=155
ZR 194 GOSUB 468
YV 196 GOSUB 484
GD 198 GOTO 178+28*(I>0)
QN 200 REM
TX 202 REM *→ GET GAME NAME
QZ 204 REM
RR 206 D$="D1:"
DD 208 ?
LA 210 ? "GAME NAME- ";D$;
JR 212 INPUT #16;E$
SG 214 D$(4)=E$
RH 216 REM
JY 218 REM *→ CIO CALL ROUTINE
QR 220 REM
MZ 222 CIO$="h█♣ Vd♦"
RD 224 REM
HQ 226 REM PLA
```

by
Andrew C. Thompson

```
SP 228 REM LDX #$10
AR 230 REM JSR $E456
SQ 232 REM RTS
RF 234 REM
RL 236 REM
EG 238 REM *→ GET GAME-FILE
QV 240 REM
KO 242 A=ADR(G$)
YW 244 AUX1=4
GI 246 ICCOM=7
IQ 248 L1=252
IA 250 L2=252
MN 252 CLINE=254:GOTO 510
PF 254 L$(1)=CHR$(PEEK(856))
QQ 256 L$(2)=CHR$(PEEK(857))
RV 258 REM
SB 260 REM *→ FIND AMOUNT OF SCREENS
RF 262 REM
IF 264 I=8
IF 266 S=0
JO 268 GOTO 270+2*(PEEK(A+I)<>46)
VF 270 S=S+1
KL 272 I=I+13
PY 274 GOTO 268+14*(I>40*13+8-1)
RT 276 REM
MD 278 REM *→ ZERO SCREENS CHECK
RD 280 REM
DB 282 ?
IL 284 GOTO 286+12*(S>0)
HN 286 ? "THERE ARE NO SCREENS IN THIS"
FY 288 ? "GAME FILE!"
UA 290 STOP
RL 292 REM
IV 294 REM *→ GET SCREEN NAME
RX 296 REM
JZ 298 B=A
PD 300 A=ADR(S$)
EG 302 C=0
ZA 304 F$=""
RS 306 D$="D1:"
GC 308 I=0
WI 310 GOTO 312+40*(C>S-1)
IC 312 W=PEEK(B+C*13+I)
JB 314 GOTO 316+2*(W=32)
SW 316 D$(LEN(D$)+1)=CHR$(W)
RC 318 I=I+1
KZ 320 GOTO 312+10*(I>11)
YL 322 F$(C*12+1)=D$(4)
IS 324 F$(LEN(F$)+1)="            "
IA 326 ? ,D$(4)
RQ 328 REM
CB 330 REM *→ GET SCREEN
RA 332 REM
ND 334 CLINE=336:GOTO 510
FE 336 L$(LEN(L$)+1)=CHR$(PEEK(856))
GP 338 L$(LEN(L$)+1)=CHR$(PEEK(857))
CZ 340 A=A+505
NW 342 C=C+1
PQ 344 GOTO 306
RO 346 REM
BO 348 REM *→ DESTINATION
QY 350 REM
CW 352 ?
HL 354 ? "INSERT YOUR DESTINATION"
MZ 356 ? "DOS-FORMAT DISK"
DO 358 ?
ZJ 360 ? "PRESS RETURN"
PE 362 K=155
ZN 364 GOSUB 468
RS 366 REM
FJ 368 REM *→ CONFIRM
RC 370 REM
TX 372 ? "CONFIRM! WRITE? >";
BN 374 KEY=89
ZV 376 GOSUB 468
DS 378 ?
```

```
RE 380 REM
QD 382 REM *→ PUT GAME-FILE
RQ 384 REM
SI 386 D$="D1:"
TH 388 D$(4)=E$
KT 390 A=ADR(G$)
AP 392 AUX1=8
AP 394 ICCOM=11
UF 396 L1=ASC(L$(1))
VG 398 L2=ASC(L$(2))
MN 400 CLINE=408:GOTO 510
QV 402 REM
LA 404 REM *→ PUT SCREENS
RH 406 REM
DF 408 ?
PG 410 A=ADR(S$)
EJ 412 C=0
RP 414 D$="D1:"
CL 416 D$(4)=F$(C*12+1,C*12+1+11)
IF 418 ? ,D$(4)
LP 420 L1=ASC(L$(C*2+3))
MU 422 L2=ASC(L$(C*2+4))
NB 424 CLINE=426:GOTO 510
DO 426 A=A+505
OL 428 C=C+1
ZB 430 GOTO 414+24*(C>S-1)
RB 432 REM
WW 434 REM *→ WRITE AGAIN?
RN 436 REM
DL 438 ?
BL 440 ? E$;" HAS BEEN COPIED"
HE 442 ? "WRITE AGAIN? >"
BI 444 KEY=89
IE 446 GET #3,K
AV 448 IF K=89 THEN GOTO 352
UY 450 RUN
RF 452 REM
TF 454 REM *→ SUBROUTINES
OZ 456 REM *→ ___________
RX 458 REM
RB 460 REM
RN 462 REM
KD 464 REM *→ GET KEY
RT 466 REM
NI 468 CLOSE #3
QN 470 OPEN #3,4,0,"K:"
HY 472 GET #3,K
DU 474 GOTO 472+4*(KEY=K)
AG 476 RETURN
SB 478 REM
LB 480 REM *→ DIRECTORY
RL 482 REM
MO 484 CLOSE #2
SE 486 OPEN #2,7,0,"D:*.GAM"
GT 488 I=0
CZ 490 ?
CZ 492 INPUT #2;D$
KA 494 GOTO 496+6*(D$(1,3)>="000")
RN 496 I=I+1
EN 498 ? ,D$
RH 500 GOTO 492
ZH 502 RETURN
RC 504 REM
WO 506 REM *→ CIO EXECUTE
RO 508 REM
VD 510 HI=INT(A/256)
HL 512 LO=A-(HI*256)
LP 514 CLOSE #1
ZN 516 OPEN #1,AUX1,0,D$
ZP 518 POKE 850,ICCOM
SA 520 POKE 852,LO
NC 522 POKE 853,HI
DA 524 POKE 856,L1
EH 526 POKE 857,L2
PO 528 X=USR(ADR(CIO$))
LH 530 CLOSE #1
OI 532 GOTO CLINE
```

Ian Finlayson's

TUTORIAL TIME

A SIMPLE SCROLLING MESSAGE

For this edition of Page 6 I have here a short but sweet subroutine. It is taken and modified from a much more complex program sent to me by Mr N C Williamson and I thank him for it. His big program is a disk based weather forecast application, in which he has used a great range of menuing and prompting methods to keep the whole application lively and varied. If you are interested in meteorology (that is weather forecasting, not small heavenly debris!!) you will find the program interesting. You can get in touch with Mr Williamson through me if you send me a stamped self addressed envelope.

Anyhow back to the little subroutine. What it does in general terms is take a text string (that is a message!) and print part of it on the screen then, after a short pause, move everything one character to the left and print it again. This is repeated until the end of the message is reached and then starts again making the text appear to scroll continuously through the "window" on the screen. To stop the abrupt jerk that occurs when the text restarts the first little bit is rewritten at the end of the string giving a continuous flow until the message is deliberately interrupted.

THE LISTING

The program listing has three examples of the scrolling message. The actual messages are held in string A$ and can be seen in lines 20, 50 and 175/176. The strings can be as long as you like, but make sure the DIM statement in line 20 is as long as the longest string you use.

I will explain the first example and leave you to follow the others.

In **line 20** A$ is dimensioned and defined. When writing your message the last few characters should be the same as the first to avoid a jump as the message loops back to the beginning. Repeat a length of message equal in length to the display window.

Line 25 clears the screen. In many instances you will want to insert your message in a particular space on the screen so you will not want this clear screen command. I have only put it in because I do not want the screen cluttered with whatever is there when you RUN these examples (you will see that it is not in examples two or three).

Line 30 sets the variable values for the first example. C is the column and R is the row of the start point of the message on screen (remember to count from the top left of the screen). L is the length of the "window" in which the message is displayed. D is the delay constant, the bigger this is the slower the movement of the message. X is set to 1 because it can be left in an unknown state if the subroutine is used more than once in a program. Finally M is the total length of the message - characters and blank spaces.

Line 35 is not really part of the tutorial, it is just a conventional static prompt before line 40 goes to the scrolling subroutine.

Line 1100 is the start of the subroutine. The POKE turns off the cursor so that it does not flicker distractingly as the message scrolls through.

In **Line 1120** the cursor is positioned at the start of the message window and then in line 1130 a section of the message L characters long is printed.

Line 1140 increments X by one, and if X is greater than the length of the message less the length of the message window it resets to the beginning.

Line 1150 is a delay that slows the message so it can be read. If you can read fast try setting D=1 in line 30.

Line 1160 is the test condition for moving on to the next part of the program. I have just used a test for any key press (see the articles in the last two magazines), but you can put in whatever condition you wish. If no key is pressed the subroutine goes on to line 1170 and loops back to line 1120 where the message is printed again but one character to the right. If a key is pressed it jumps to line 1180 where the POKE turns the cursor back on and control RETURNS to the main program.

Example 2 is very similar to example 1, then in example 3 I have drawn a box and put a longer scrolling message in it. I hope this gives you some ideas for including this simple technique in your own programs. If you want help with BASIC programming or wish to have your name forwarded to Mr Williamson in connection with the weather forecast program, write to me with a SAE. My address is

Ian Finlayson, 60 Roundstone Crescent, East Preston, West Sussex, BN16 1DQ

```
WO 1 REM ******************************
CR 2 REM *    TUTORIAL SUBROUTINES    *
DT 4 REM * SIMPLE SCROLLING MESSAGES  *
XU 5 REM *            by              *
CO 6 REM *       Ian Finlayson        *
OG 7 REM *----------------------------*
YI 8 REM * NEW ATARI USER - AUG 1993  *
WW 9 REM ******************************
AY 10 REM
VT 19 REM *** FIRST EXAMPLE
MX 20 DIM A$(160):A$="           ONE      TWO
   THREE  FOUR    FIVE    SIX     SEVEN  E
   IGHT  NINE    TEN     ONE"
XW 25 ? CHR$(125)
IK 30 C=12:R=10:L=10:D=20:X=1:M=80
UB 35 POSITION 6,8:? "PRESS A KEY TO CONT
   INUE"
MR 40 GOSUB 1100
ZQ 49 REM *** SECOND EXAMPLE
TZ 50 A$="<<<<<<PRESS ANY KEY TO END THI
   S DEMONSTRATION<<<<<<<<<<<<<<<<<<<<<PR
   ESS ANY KEY"
WJ 60 C=7:R=12:L=20:D=40:X=1:M=80
MU 70 GOSUB 1100
DV 79 REM *** DRAW BOX FOR 3RD EXAMPLE
VU 80 DIM ROW$(13)
UY 90 RESTORE 1000:READ A1,A2,A3
DL 100 ROW$(1,1)=CHR$(A1):FOR R=2 TO 12:R
   OW$(R,R)=CHR$(A2):NEXT R:ROW$(13,13)=C
   HR$(A3)
DU 110 POSITION 11,14:? ROW$
KX 120 RESTORE 1010:READ A1,A2,A3
DR 130 ROW$(1,1)=CHR$(A1):FOR R=2 TO 12:R
   OW$(R,R)=CHR$(A2):NEXT R:ROW$(13,13)=C
   HR$(A3)
ES 140 POSITION 11,15:? ROW$
LS 150 RESTORE 1020:READ A1,A2,A3
DX 160 ROW$(1,1)=CHR$(A1):FOR R=2 TO 12:R
   OW$(R,R)=CHR$(A2):NEXT R:ROW$(13,13)=C
   HR$(A3)
FQ 170 POSITION 11,16:? ROW$
TO 174 REM *** THIRD EXAMPLE
LV 175 A$="<--<--THIS IS THE LAST EXAMPLE
   <--TRY ONE OF YOUR OWN<--<--<--<--<--<
   --<--<--++++"
CG 176 A$(81,160)="<--<--YOU CAN ADD IMPA
   CT AND ATTRACT ATTENTION TO PROMPTS-<-
   -<--<--<--<--<--THIS"
LY 180 C=12:R=15:L=10:D=20:X=1:M=160
QV 200 GOSUB 1100
NT 210 END
JA 999 REM *** DATA FOR BOX DRAW
VB 1000 DATA 17,18,5
VO 1010 DATA 124,32,124
TY 1020 DATA 26,18,3
FT 1099 REM *** SCROLLING MESSAGE ROUTINE
OL 1100 POKE 752,1
AT 1120 POSITION C,R
DW 1130 ? A$(X,X+L)
SM 1140 X=X+1:IF X>M-L THEN X=1
ID 1150 FOR DELAY=1 TO D:NEXT DELAY
EG 1160 KEYP=PEEK(764):IF KEYP<>255 THEN
   POKE 764,255:GOTO 1180
OX 1170 GOTO 1120
UW 1180 POKE 752,0:RETURN
```

contact ... contact ... contact ... contact

FOR SALE

LYNX: Atari Lynx with 15 games inc. Warbirds, Stun Runner, California Games, Checkered Flag, Blue Lightning and Batman Returns. Also carrier case, mains adaptor, ComLynx cable for two player link up and all instructions. The lot for £250 o.n.o. Please phone James on 0707 330393

MEMORY EXPANSION: Yorky 256k expansion box to fit 64k Atari 800XL, new, unused, £50; also Atari 130XE, XC12 datacorder, joystick plus games (30+), £125. Contact Steve on 0622 757338

SOFTWARE & BOXES: Mountain King ROM cartridge from CBS software complete with box and manual, Super Huey on disk complete with box and manual. Also very rare boxes (without software); Dragon Riders of Pern, Pitstop II, Fun With Art, World Karate Championship from Epyx; Coconotes from CBS; Ballblazer, Eidolon, Howard The Duck, Ghostbusters, Spindizzy from Activision; Ninja (very rare American box) from Mastertronic. I don't sell these items, I swap them with old Atari boxes or software made before 1983 during the Warner Communications period. Send me your propdsition, I will answer you. Berthault, Pierre-Andre, 9 Rue De La Tour, 75116 Paris, France

MIXED BAG: 130XE, £50; XC12 new & boxed, £10; 1027 printer, £25; Midi Master II complete, £15; Digi Drum II and Replay disks, £8 the set; Movie Maker, Video Title Shop, Turbo Basic, Transpack IV, all with manuals and/or instructions, £8 each post paid. Books - Graphics Handbook, Games for the Atari 400/800, The Easy Guide to Your Atari 600/800XL, all £5.50 post paid; blank 5.25" disks qty. 40. £12 post paid. Disks - Star Raiders II, Mercenary & Second City. Pokey Player; Atari User issue 29, 34, 48, 55 as a set; Atari User Library disks 24, 45, 35, 65 as a set; all the above £3 post paid. Also mixed bag of typed in games on disk, about 12. Contact Syd on 0293 511708 (Crawley, Sussex)

GOOD ORDER: 130XE, XC12 datacorder, all leads and manuals, power pack, lots of cartridges and cassettes, joystick, trackball, PAGE 6 mags, £65 o.n.o. A.F. Surrey, 39 Luton Road, Faversham, Kent ME13 8HQ. Tel. 0795 535133 any time

HARDWARE: 600XL, Atari 1064 memory upgrade, 1010 data recorder, 1050 disk drive, Philips portable b/w television, F.C.C. parallel printer interface, £150 o.n.o.; 130XE, XF551 disk drive, XC12 data recorder, XEP80 80 column display adaptor and AtariWriter 80, Philips 80 monochrome monitor, £250 o.n.o. Call 081 807 2258 for details of the above and available software/applications or write to 81 Kenton Road, Kenton, Harrow, Middx. HA3 0AH

SURPLUS: Reducing large system to more usable size. 1 Meg XE, 256k XL, 6 x 1050's, 850, 1010, XC12 printer interface etc. etc. Please send SAE to M.G. Rice, 29 Copse Road, Plymouth, Devon, PL7 3PZ or phone 0752 344650

XL SYSTEM: 800XL (needs attention), two 1010 recorders (1 for spares only), 1050 drive with W.P. switch, leads and power pack plus 70 disks, 5 cartridges, some cassettes, touch pad and paddles. Also Atari User magazines June 85 to April 88 (2 missing), four from volume 4 and PAGE 6 issue 28 onwards (2 missing), £75. Cash preferred. Could deliver locally. Phone Sue Thompson 0532 870212 (Kippax area)

XE SYSTEM: 130XE with XC12 tape deck, Invitation to Programming 1, 2, 3, Easy Programming book, 5 games and a cartridge also included, £95. Also I have an 800XL with tape deck, 5 games and a cartridge, £50. A joystick with each. Phone John on (051) 523 9966

XE SYSTEM: 65XE computer with 1050 disk drive fitted with US Doubler, joystick and over 100 games, £110. Tel. Sheffield 306795

XE SYSTEM: 130XE, 1050 drive, 1027 LQ printer, 850 interface (necessary if upgrading printer), all manuals, joystick, Mini Office, Visicalc, Atari Writer Plus and several games, £100. Phone 081 979 0856. Buyer collects (Hampton, Middx.) or pays postage

COMPLETE SYSTEM: 130XE with parallel printer interface and Ultramon fitted, 1050 with US Doubler, 1050 with Happy, 2 1010 recorders, 850 interface, touch tablet with Atari Artist cartridge, Voice Master, Pilot, Microsoft Basic 2 and Assembler Editor cartridges, Replay cartridge, Mapping The Atari book. I also include around 50 cassette games, 15 original disks and a few PD disks. Offers around £275 welcome. I will throw in a very old but fully working 800 as well. Please contact by phone on (0522) 546145. Please leave your phone number with my HUMAN answering machine if I am not in or write with your offer to Ian Wiseman, 13 Swift Gardens, Lincoln LN2 4NA

SOFTWARE: I have Tank Commander, Transmuter, Arkanoid, On Cue, Thrust, Storm, Powerdown, Gridrunner, Kikstart, Zybex, Tanium, BC's Quest for Tires, Galactic Empire, Dambusters, Starfish, all original cassettes. All 15 for £25 or any reasonable price, highest bidder gets them, no splits. Write to A. Bontsema, Euvelgunnerweg 10, 9723 CT, Gronigen, Holland. Or maybe swap cassettes for something else.

XE SYSTEM: 130XE, Computerhouse controller card, 1050 disk drive with read/write switch, Happy, US Doubler, joysticks, lots of books, games, mags etc. £150 o.n.o. Tel. 0343 842283

BOOKS ETC.: Atari 8-bit books, magazines and some disks for sale to anyone interested. Send SAE for list to J B Staff, 22 Gawsworth Close, Bramhall, Stockport SK7 2BB

MACHINE CODE SYSTEM: MAC/65 assembler cartridge and manual, £40; Machine Code Tutor (2 cassettes and manual), £10; De Re Atari, £10; Technical Reference Notes, £15; Machine language For the Absolute Beginner, £4. Tel. 0908 671133 or write to 56A, Bossiney Place, Fishermead, Milton Keynes MK6 2EG

ST AND XL: 520STFM, mouse, joystick and 10 games, £125; 800XL, 1050 disk drive, loads of software (games, adventures and serious) plus loads of books, £125. Phone 0932 780767

XE DISK SYSTEM: 130XE, 1050 disk drive, Midi II music interface, joystick, disk box, some software and blank disks, many magazines in binders, £110 ovno. will deliver if between Leics and Yorks. Also Atari 400 and 410 recorder, joystick, some software on tape and ROM. 800XL with one key not working. Offers. Tel. 0572 770544

PRINTER AND MORE: 1029 dot matrix printer, £50 hardly used and many games on cassette, a bargain at only £1 - £2. Many top titles. For further information please phone Faisel on 071 359 6924 on weekdays after 5.30 or at any time on weekends

XL SYSTEM: 800XL, 1050 disk drive, 1010 tape deck plus old 800 and 810 disk drive. Software on cart., disk and cassette inc. Midi Master, Replay Sampler, Star Raiders, Defender. Manuals, books and mags inc. De Re Atari and Mapping The Atari. Only £150 the lot. Phone Paul on 0903 884073 after 5pm

VARIOUS: SupraModem 2400 plus. Excellent condition, under a year old, boxed with manual, ST lead, mains unit, various PD Comms software. Has only been used for 1 hour. Reason for sale - not my scene! Price £89; Software on cassette, Zybex, Mirax Force, Feud, Titan, Boulderdash IV, King of the Ring, Cosmic Pirate, Master Chess, Space Rider Jet Pack Co.,BMX Simulator, Despatch Rider, Chuckie Egg, Thrust, Atari Writing programs 1 & 2 + Atari joystick Sketch Pad and sample programs, Hardball, Tomahawk, Gauntlet. All £2 each or £15 for the lot, postage extra (heavy cassettes). Smash Hits 7, Atari Compilation A, £3 each or £5 for both, plus 50p p&p. Most of the games are within one year old. Tel. Brighton 0273 883630 or write to Daniel Baverstock, 199 Mackie Avenue, Patcham, Brighton, BN1 8SE

WANTED

ADVENTURE WRITER: Or is it Adventure Creator? Cartridge required, must have decent instructions but I'll either pay a good price or I might swap it for something else. If you can help, please contact Kevin Cooke, 35, Buddle Lane, St. Thomas, Exeter, Devon EX4 1JH

MAGS: Old ANTIC/ANALOG mags wanted. Also PAGE 6 mags issue 32 or earlier. Disk not necessary. Also want original copies of Basic XL, Basic XE and Microsoft Basic II - must be complete with manuals. Write to Dave, Pen-Tyddyn, Capel Coch, Llangefni, Anglesey, Gwynedd LL7 7UR

SUPERBASE: Wanted, a copy of Superbase 123 database program. Phone Ashford, Kent 0233 645494 after 7pm or write to Mr. S Berry, 17 Old Pond Road, Ashford, Kent TN23 2QX

WANTED: Any information, manuals, user guides, handbooks on the Indus GT for Atari XE. Also a power supply adaptor for Indus GT. Please contact Jack Iles. Tel. Rickmansworth 720756, I will pay any reasonable price or cost involved. 43, Fuller Way, Croxley Green, Rickmansworth, Herts, WD3 3PL

WORLD CUP MANAGER: Wanted on cassette, also Table Football. Will pay generously or swap. I have a few rare games. Write to Simon Reeder, 8 St. Peters Close, Brimsworth, Rotherham, S. Yorks S60 5NJ

FUN WITH ART: Cartridge wanted. Good condition, original instructions. Will pay good price and all Airmail postage costs. Write to G.T. Lyons, 304 Bay Street, Brighton-Le-Sands, NSW 2216, Australia

SOFTWARE WANTED: Preppie II on tape, The Freezer by Digicomm on disk. Please write to Mr. P.A. Cole, 29 Frittenden Close, Stanhope, Ashford, Kent TN23 2SX

PEN PALS/HELP

PROGRAMMERS: Are you an avid Atari programmer? Want to know more about your favourite machine? Or do you want help with graphics or sound for a game you're writing? Then why not join The Atari Classic Programmer's Club! Send SAE for further details to; ACPC, Pen-Tyddyn, Capel Coch, Llangefni, Anglesey, Gwynedd LL77 7UR, Wales

ST OWNERS: I am looking to start up a disk magazine to enter into the public domain. No money is involved whatsoever. If you have any ideas, programs, pictures, articles, reviews etc. which you would like to put in the catalogue then please send them (preferably on disk) to A. Marsh, 1 Underhill Cottages, Peene, Newington, Folkestone, Kent CT18 8BE

THE GRIM REAPER: Issue 10 now available for your XL/XE. To receive a copy send a disk and SAE to TGR, 17 Litton Bank, Gamesley, Glossop, SK13 9HF. TGR will not run on 810 drives.

CONTACT: I own a 65XE and 1050 drive with doubler chips. I would like to make contact with other users with a similar setup. Please write to: Jeffrey Michael Foster, 57 Ripley Close, Salford, M5 4BY

TWAUG: Tyne and Wear Atari User Group. A bi-monthly newsletter and disk for the Atari 8-bit computer. The newsletter consists of 32 pages full of articles, reviews and many useful hints and tips. For further information, write to TWAUG. P.O. Box 8, Wallsend, Tyne & Wear, NE28 6DQ

PENPALS: Wanted to swap games, tips etc. I have quite a large amount of games mainly sport sims and arcade adventures. Write to Simon Reeder, 8, St. Peters Close, Brimsworth, Rotherham, S. Yorks S60 5NJ

HELP: Someone wanted who can teach me assembly language or can someone give me some sort of documentation about this type of programming. Everybody's welcome, maybe we can start a sort of exchange assembly club or such. What ya think? Write to A. Bontsema, Euvelgunnerweg 10, 9723 CT, Gronigen, Holland

MANUAL: Could anyone help with getting the manual of the Panasonic KX-P 1081 printer, also looking for some spare parts for this printer such as the paper lever for holding down the paper and something that used to be on the printer but I don't know what (I found the printer). Write to A. Bontsema, Euvelgunnerweg 10, 9723 CT, Gronigen, Holland

PRINTER HELP: I have a Citizen 120D+ printer and am not sure if I have set it up correctly. Has anyone got any notes they are willing to offer on how to do this? In particular how to use with AtariWriter Plus, Please write to Diane Heyes, 13, Verna Street, Ramsbottom, Nr. Bury, Lancs BL0 9HZ

CONTACT is FREE of charge and may be used by any genuine Atari enthusiast for contacting other owners. Any notice may be included except those offering software only for sale or exchange or those offering items for sale commercially. The Editor reserves the right to omit or edit any notice received at his discresion. If space is tight, notices may be shortened and addresses may be omitted with only telephone numbers being published.

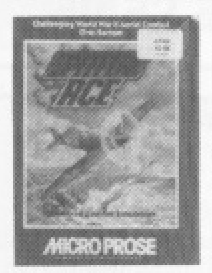
Send your CONTACT notice to CONTACT, PAGE 6, P.O. Box 54, Stafford, ST16 1DR. Please write your notice on a separate sheet of paper, not as part of a letter.

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP ...

THE ACCESSORY SHOP
ISSUE 63

ALL NEW SOFTWARE!

SPITFIRE ACE



Another cracking flight sim from Microprose. Set in World War II, this challenging simulation will see you sent on missions to Cologne, London during the blitz, France for the D-Day invasion and North Africa. Outstanding graphics, multiple scenarios, head to head combat for one or two players. Spitfire Ace comes from the writers of F-15 Strike Eagle and Silent Service so you know it's going to be good.

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We are pleased to present dozens of items which have not been featured before in the Accessory Shop and there's more to come in future issues. We've invested in this stock to help support your Atari over the coming year and we are relying on you support us. Keep the Atari flag flying high!

REMEMBER - MAKE A COMMITMENT

WIZARD OF WOR

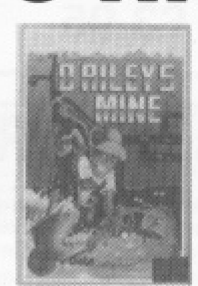


Descend into the Dungeons with your squadron of Worriers to battle a host of monsters both visible and invisible and the Wizard himself. Survive the changing patterns of mazes, fight in the arena, the Worlord Dungeon and the Pit. Can you defeat the Wizard of Wor?Recommended by John Sweeney in a past issue of NAU.

ROM CARTRIDGE

OUR PRICE £6.95

O'RILEY'S MINE



Help O'Riley dig deep underground in search of coal, oil, gold rubies and diamonds in the outback of California. Great dangers await in the mine and various unknown creatures have been disturbed by O'Riley's digging but they can be killed by dynamite. This is of course if you can place it correctly. If you don't you could blast through to a subterranean river in which you will surely drown.

CASSETTE AND DISK

OUR PRICE £4.95

BARNYARD BLASTER

Get yourself a light gun and have some fun with some real down-on-the-farm target practice. There's critters, bottles and varmits everywhere in the barn, in the yard and out on the cornfield. If you can't hit the moving targets you can play havoc with the veggies. If you get hold of a light gun then Barnyard Blaster is fun all the way.

ROM CARTRIDGE

OUR PRICE JUST £5.95!

RAMPAGE

It's rough and tumble all the way as you control three incredibly nasty characters which bear a remarkable resemblance to King Kong, Godzilla and Wolf-man through an orgy of destruction in Chicago, New York and San Francisco. You have 150 days of destruction in 50 different cities. Time for some revenge!

DISK ONLY

OUR PRICE £3.95

SHANGHAI

One of the most addictive and most relaxing games of solitaire is Shanghai, based on the classic Chinese game of Mah-Jong. The object is simply to remove all the tiles by matching pairs which can be slid out either right or left. It's so simple that you might wonder where the challenge is, but the 144 tiles can be laid in an almost infinite number of ways and you will never play the same game twice. Can you beat your last score? You will want to try again ... and again.

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TOUCHDOWN FOOTBALL

Yes it's real American football on your Atari with great 3-D graphics and animation for 1 or 2 players. Choose offensive or defensive play and be ready to run hard. Don't worry if you don't know the rules, as everything is explained. Your players are controlled by the joystick which gives eight types of move depending on the type of game you are playing. It will take a while to master but when you are up and running the adrenaline will be running high!

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RUFF AND REDDY IN THE SPACE ADVENTURE

Ruff and Reddy have agreed to test Professor Flipnoodles Pocket Rocket. At blast off something goes terribly wrong and the rocket spins wildly out of control, heading off into deep space. It crash lands on a planet inhabited by small blue aliens. Some of these have been lost on another planet and the only way that Ruff and Reddy will escape is to find the missing aliens. Great cartoon fun with excellent graphics.

CASSETTE ONLY

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YOGI BEAR & FRIENDS IN THE GREED MONSTER

Yogi's Treasure Hunters receive a call from Top Cat saying "All the toys in the world have been stolen". It's their job to find out what has happened to them. Excellent graphics, animation and cartoon fun make this a great addition to your collection. Reviewed in New Atari User and highly recommended.

CASSETTE ONLY

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More new software

TEMPLE OF APSHAI



A classic role-playing game in which you can explore 200 rooms trying to discover up to 80 treasures. You will meet skeletons, zombies, spiders and wraiths on your travels and you must choose whether to fight or flee or bargain for weapons and treasure. This graphics based RPG is of intermediate difficulty for ages 10 to adult.

CASSETTE ONLY

OUR PRICE £5.95

RESCUE AT RIGEL



A role playing game set in the science fiction universe of Starfleet Orion in which you must find your way through a maze of corridors, chambers, graveshafts and teleportals to try and rescue 10 of your colleagues taken prisoner and held in a maze like alien moonbase. This real time game is different every time you play and is recommended for ages 10 to adult

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CANYON CLIMBER



Picture yourself at the foot of the Grand Canyon with the Colorado river at your feet with the only way out up the sheer walls. You will need to keep your wits about you as you climb, for mountain goats, savage Indians and flying birds will all try and knock you off the sheer cliff face. You have dynamite though and if you can place it just right you might, just might, get to the top

CASSETTE ONLY

OUR PRICE £3.95

DATESTONES OF RYN



More role playing adventure in the Dunjonquest series in which you are working against the clock to recover the Datestones of Ryn which have been stolen by a band of rogues. This game is in real time so it's a 20 minute race against the clock to find the blaggards and recover the stones. It's a different game every time you play so if time runs out you can try another day.

CASSETTE ONLY

OUR PRICE £5.95

CROSSFIRE

You are alone in a deserted city surrounded by aliens who shoot lasers from every direction. Your movements are confined but you haven't given up. If you are to survive you'll have to concentrate on where the shots are coming from otherwise you'll be caught in the CROSSFIRE. One of those fairly simple yet highly addictive games.

CASSETTE ONLY

OUR PRICE £2.95

THE E FACTOR

The E factor represents the amount of time the energy sources on the planets in our galaxy will last. Many planets need emergency fuel capsules delivered if they are to survive. You must plot the interplanetary course and guide your craft through the quadrants filled with obstacles such as space mines, alien fighters and spinning asteroids. Can you complete a mission and deliver your energy crystal before another planet calls on your services?

DISK ONLY

OUR PRICE £3.95

THE COUNT

One of Scott Adam's famous graphic adventures in which you awake in an antique brass bed in a dank, desolate castle. It soon looks like you are going to meet a certain toothy Transylvanian Count who goes by the name of ... Dracula! Will you escape or become one of the living dead? An adventure with full graphics, moderate level for ages 10 to adult.

DISK ONLY

OUR PRICE JUST £2.95!

ARCHON

A unique battle combining elements of fantasy with the strategy of the chessboard. Your men represent the forces of good and evil and when they each occupy the same square the board bursts into life with banshees, goblins and sorceresses. They cast spells, throw flames, even take on each other's shapes and characteristics. You can play the Light or the Dark either alone or with another player. A totally unique game.

ROM CARTRIDGE

OUR PRICE £7.95

ESCAPE FROM DOOMWORLD

A three stage arcade space game in which you must first find the energy cells, key, map and rocket then fly your ship to pick up the scientists stranded on Doomworld, Finally you must locate and pick up three bombs that will destroy the planet and the aliens who were responsible for the capture of the scientists. An entertaining arcade romp.

DISK ONLY **OUR PRICE £3.95**

KING OF THE RING

Well, you see, Harry there ain't been too many boxing games on the Atari but this one's a real cracker. Guide your boxer through training and fight preparation to grab a chance at the World Championship. There are up to 20 opponents, 8 rounds per contest and if you can win just four fights you get the chance to fight for the title. It's thrills and fun all the way in this unique combination of strategy and arcade action.

CASSETTE ONLY **OUR PRICE £3.95**

SNOKIE

In the frozen north lives a little known race called 'sno-birds', highly intelligent creatures that are good at jumping but who cannot fly. The particular bird in this arctic romp is called Snokie and he has been separated from his girlfriend Cara by evil 'grodies' who are holding her prisoner in a deep snow cave. Can you help Snokie find her? 1 or 2 players, animated graphics, high speed or normal play with seven time controlled game phases.

CASSETTE ONLY **OUR PRICE £2.95**

S.S. ACHILLES

An alien life-form has breached your star ship's security systems and is growing at an alarming rate. Can you keep the toxic fungus and its fast travelling spores at bay while you salvage what you can from the ship? You must keep vital corridors open and check the scanners for new growth, but above all you must ensure that your escape route to the shuttle is kept open.

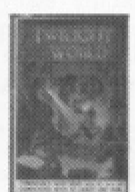
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Now you have OVER 40 cassettes to choose from!



TWILIGHT WORLD

Enter the Twilight World. Equipped with the latest in anti-gravity pods and Laser weaponry, battle your way through each of the eleven dungeons defeating their fiendishly devious inhabitants along the way. A game from Atari themselves!



LEAPSTER

Henry Leapster just has to get to school on time. He must travel across town, through houses, a missile base (weird town this!), a grave yard and finally to school. He must collect objects on each screen whilst being pursued by cars, missiles, troops, zombies etc. If you make it to school you still have to avoid the paper planes, arrows and springs that drop from the floor above. Weird or what?



CHUCKIE EGG

Who'd have thought a country farmyard could be so stressful? You must collect all the eggs before the nasties get out and eat up all your corn. watch out for the crazy duck - if she gets out of the cage, you're in real trouble! You must collect all the eggs to proceed to the next screen.



AZTEC CHALLENGE

At the ancient Mexican pyramid of Tenochtitlan the Aztec gods have demanded a human sacrifice. You are one of the chosen! Your only hope of escape is to survive a series of tests in which your agility and stamina are pushed to the limits. Over the centuries your race has developed amazing abilities in running, jumping and leaping - your only chance of surviving the epic Aztec challenge.



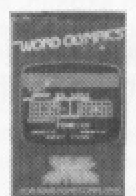
CLOAK OF DEATH

Strange what bets you'll accept after a few pints in the local. 'Easy', you said, 'Stay a night in the old house, it's only been empty for 30 years'. These words echo in your head as the door closes behind you. Try as you might, you can't open it again. So you begin a graphic adventure to try and escape. Somehow you will wish that you hadn't accepted that bet!



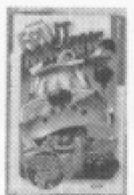
DEATH RACE

Drive at speeds of up to 300 mph through town and country, day and night, to overtake the 70 cars that left you stalled on the starting grid. Your reactions will need to be like lightning as the slightest mistake will mean instant death.



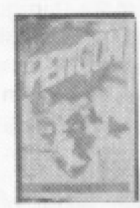
WORD OLYMPICS

A marvellous educational game of skill, reaction and intelligence. Play Word Olympics on your own or against a friend and see just how quickly you can solve the anagrams. Six races can be chosen with up to 5 modes of operation. An entertaining diversion for those who like word games.



ARCADE FRUIT MACHINE

Arcade Fruit Machine has all the features associated with the best bandits in one fantastic machine. The specially developed CASH 'n' GRAB machine requires you to use your brains, or it will clean you out. Arcade Fruit Machine is no simulation - it is the real thing!



PENGON

Can you save Penguin Willy from the ferocious mutant sea lions? Stun them by knocking them against the walls or crush them to a horrifying death with sliding ice blocks. High speed arcade action game, full colour graphics and music.



QUEST FOR ETERNITY

It's your chance to become an Overlord of the Universe. It's time to take the test. Failure means a fate worse than death, a visit from the Battlegroms of Vragus IV. All you have to do is get a disused teleportal booth to work. Unfortunately it's 2,000 light years away on a slightly hostile planet. An adventure set aboard a space ship that will accept 99 verbs and 162 nouns.



THRUST

The resistance is about to launch a major offensive against the Intergalactic Empire. They have captured several battle-grade starships but they lack the power sources. You have to enter the Empire's storage planets and steal the supplies. Batteries of guns make the task one that only the best players will survive. Fast, colourful, exciting action all the way.



UP, UP & AWAY

Fill up with butane gas and ballast and away you go. The skill level you have chosen varies: the wind, number of lives, sand and fuel levels. Ignite the gas and you rise up, release hot air and you descend. Dumping ballast helps if the gas runs out. Watch out for punkoids, kamikaze pilots, seagulls and even lightning. It's dangerous up there!



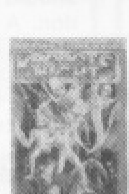
SCREWBALL

You are Screwball and you have 60 seconds to change the colour of all the squares that surround you. Menacing you all the time are the Black Bugs, and they sure are mean. They even cheat by sometimes not even walking on the squares. Kill the bugs by digging holes for them to fall through.



MORDON'S QUEST

The adventure takes place over many thousands of years and it is your quest to save the universe from destruction. Your journeys will take you to many fascinating worlds both ancient and futuristic and you will have adversaries to outwit and hazards to overcome. Are you prepared to tackle this complex text adventure with over 150 locations?



ROBOT KNIGHTS

Can you save Futureworld? As a Robot Knight you are equipped for the job. The threat of the evil Otto's monster creation could destroy the whole of Futureworld. You will, of course, have to defeat Otto's guards the Zombies. Your mission is to work your way through Otto's dungeon, find the laboratory and destroy Otto and his monster.



MOUNTAIN BIKE RACER

The mountain bike is the ultimate all-terrain cycle and this game has you on the most hazardous course you can imagine. Hang on as you race against the clock and buy the tools you need to help you on your way.



DIAMOND MINE

Guide the pipe through the mine towards the diamonds avoiding walls and bugs. If you hit a wall or bug then twice as much pipe is lost. If you reach the diamonds or the pipe is eaten by bugs only that length is used. Each level the pipe gets shorter. How long can you survive?



BMX SIMULATOR

A brilliant version of the epic C64 game. Eye in the sky viewing - amazing realistic simulation, the starting ramp, burms, bumps, water splashes etc. all have realistic effect on the rider. Two player option and seven different courses will test even the best games player.



STACK UP

The ultimate arcade game, mixing fast reactions, skill, and brain punishment in superbly addictive quantities. Disintegrate the stacks and gather the huge scores that give you access to the pressure frames. Stack Up is a must for all arcade freaks - stack until you drop! The Classic version of Tetris.



ONE MAN & HIS DROID

Time is against you in your efforts to round up the alien sheep and to teleport them back to earth in this fast moving, colourful arcade/ strategy game. Fortunately, your faithful droid who can fly, dig and tunnel is at your side.



ASTRO DROID

Alone you must take on the might of the Reldan's mega invasion ship. The target is Earth and you are the only thing in the way. As the most destructive machine in the known galaxy, you have the ability to transform into an invisible attack fighter. Your wits and fire power are the only things that will win the day! Destroy or be destroyed.

SOME TITLES ARE IN SHORT SUPPLY SO PLEASE SELECT A FEW ALTERNATIVES

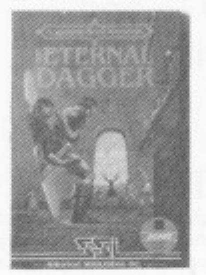
Any one cassette £1.95 - any two £3.50 - any three £5.00 - any 4 £6.50 - any five £7.50 or select ANY TEN CASSETTES FOR JUST £9.50!

All prices are inclusive of postage

CHECK THE INSIDE FRONT COVER FOR ANOTHER 20 CASSETTES TO CHOOSE FROM!

Some new ... some old ...

THE ETERNAL DAGGER



A highly recommended follow up to Wizard's Crown, this fully graphics based fantasy role playing game will keep you entranced as you battle through the wilderness in search of the enchanted weapon that alone can save the folk of Middle World. Full of magic, mystery and intrigue this is one of the best adventures on the Atari.

DISK ONLY

OUR PRICE £6.95

BATTALION COMMANDER



An exciting real-time tactical game with you as lieutenant colonel in charge of an entire armoured battalion. Choose from five different scenarios from a training mission against a Soviet tank battalion to tough assignments against the Chinese. You can adjust the relative strengths of your forces and the opposition and choose from 40 different terrain maps and five different scenarios. Enough variety to last for years!

CASSETTE ONLY

OUR PRICE £4.95

QUESTRON

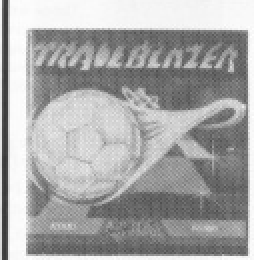


A fantasy adventure with full graphic play set in a magical world. The book of Questron enclosed will tell you of its History, Tales and Monsters as you, a mere surf but appointed by the king as Defender of the Realm, explore an unknown world. If you can find Mantor and steal his Book of Evil Magic your task will be done but that is a long way away both in time and travel. Train and fight hard and you will succeed.

DISK ONLY

OUR PRICE £5.95

TRAILBLAZER



A classic 3-D game in which you control your ball on an ever changing grid rushing towards you at breakneck speed. Keep an eye on the task set and try to avoid the chasms on either side. Hard to explain, but great fun to play with superb graphics, this is one of the classic games on the Atari. For 1 player or 2 players together with split screen action.

DISK ONLY

OUR PRICE £3.95

FIELD OF FIRE

From the sands of North Africa and the beaches of Normandy to the bridges of The Roer and the forests of The Ardennes you'll lead Easy Company into the crucial battles of World War II. This fine tactical simulation is historically accurate and requires good planning and execution to recreate or alter history. To heighten the realism and immediacy during play, special attention has been given to the Hi-Res colour graphics and lively sound effects.

DISK ONLY

OUR PRICE £6.95

PACMAN

What can you say? Surely one of the all time arcade classics that should be in everyone's collection. A game that can be played by adults and children alike with equal fascination. Very few of these ROMs are left now and your collection is not complete without this all time classic. Soon it will be gone forever.

ROM CARTRIDGE

OUR PRICE £6.95

TRIVIAL PURSUIT

The classic board game translated to the Atari with added question power. Now you can answer questions presented with music and graphics as well as straight text. An ideal family game or one you can play on your own. Over 3,000 questions and all the mechanics of the game taken care of by the computer. Trivia has never been so much fun and has never been available before at this price!

DISK ONLY

NOW ONLY £2.95!

PANZER GRENADIERS

In this exciting solitaire wargame you make the decisions for a regiment of the elite armoured infantry attached to the Panzer Grenadiers. Your forces also include mortar, artillery, Panzer IV, Panther and Tiger units. The Russian enemy is directed by the computer which will fiercely challenge you with its own complement of infantry, tanks and anti-tank guns. Three levels of difficulty, joystick control, hi-res graphics.

DISK ONLY

OUR PRICE £7.95

DECISION IN THE DESERT

Take command at the Battle of El Alamein. You can lead either side in this accurate simulation from the creators of F-15 Strike Eagle

CASSETTE

OUR PRICE £5.95

DECISION IN THE DESERT

Take command at the Battle of El Alamein. You can lead either side in this accurate simulation from the creators of F-15 Strike Eagle

DISK

OUR PRICE £6.95

MIG ALLEY ACE

An aerial combat simulation set in Korea with 3D graphics, cockpit instrumentation, different skill levels and much more

DISK

OUR PRICE £6.95

COLOSSUS CHESS 4

Claims to be the best chess program of all. The writers of Sargon III would disagree, but there is no doubt this is a fine chess simulation particularly for advanced players

CASSETTE ONLY

OUR PRICE £3.95

STAR RAIDERS II

The original Star Raiders updated with better graphics and sound. A great follow up to an all time classic that set new standards

ROM CARTRIDGE

OUR PRICE £7.95

BLUE MAX

Everyone must have heard of this World War Two 3-D flying game. We no longer have the ROM cartridge but this classic can be yours on disk dirt cheap!

DISK ONLY

OUR PRICE £2.95

SUN STAR

The Sun Star is the fastest and most powerful craft ever built and you must pilot it to recover crystals from the solar grid. A slightly different game.

DISK ONLY

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WE HAVE A LIMITED NUMBER OF SCENERY DISKS IN STOCK AT £9.95 EACH - PLEASE PHONE

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One of the all time classics for the Atari, Zaxxon set new standards with its unique 3 dimensional battlefield and great graphics

CASS **OUR PRICE £2.95**

TAIL OF BETA LYRAE
Our A-Z of Atari Software series says "The ultimate 'Scramble' clone with superb graphics and music." A great horizontal scroller

CASS **OUR PRICE JUST 95p**

FIGHT NIGHT
Fight Night brings you all the thrills of the boxing ring as you face the most brutal fighters ever in five separate battles, 1/2 players.

ROM **OUR PRICE £7.95**

SPEED HAWK
One of Atari's last games for the 8-bit can now be yours at budget price! A smoothly scrolling arcade game in which you must defend the ring worlds of your solar system from pirates.

CASS **OUR PRICE £2.95**

NATO COMMANDER
You are commander of Nato and your task is to defend Europe from Soviet invasion. Top class graphics, five scenarios

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A wargame of German armoured infantry on the Eastern Front. Five historical simulations, skill levels, joystick control, graphics

DISK **OUR PRICE £7.95**

NIBBLER
Slinking through an unknown land Nibbler finds himself in an iridescent world of constant change. As time grows short his body grows longer and he risks running into himself. Can he survive?

DISK **OUR PRICE £1.95!!**

KENNY DALGLISH SOCCER MANAGER
The ultimate in football management games. Everything you could ever think of is included in a football management simulator - stunning top-notch full colour graphics and a fun-packed game design.

CASS **OUR PRICE £2.95**

JINXTER
An adventure from Magnetic Scrolls, the team that set new standards in adventure design Requires 1050 or XF551 drive

DISK **OUR PRICE £7.95**

JEWELS OF DARKNESS
Three superb, classic, adventures with full colour graphics. Choose from Colossal Adventure, Adventure Quest or Dungeon Adventure as you take on the challenge of the mythical worlds created by Level 9. The Premier collection nicely packaged with a 64 page book

CASS **OUR PRICE £5.95**

LANCELOT
Level 9 recreate the time of wizards and the Knights of the Round Table in a three part adventure spanning the complete saga of the quest for the Holy Grail. Superbly researched and superbly written this text adventure is full of atmosphere and highly recommended.

DISK OR CASSETTE

OUR PRICE £5.95

ZORK 1
One of the most famous adventures of all time. Classic Infocom in the original box and packaging. A real bargain!

DISK **SUPER PRICE £2.95!**

US FOOTBALL
American Football is now a big craze in this country and you can now play at home. Outsmart the defence, make tackles, select plays and more.

ROM **OUR PRICE £7.95**

EASTERN FRONT (1941)
The classic war simulation by Chris Crawford that astounded Atari users when it was released. Based on Operation Barbarossa on the border of Russia.

ROM **OUR PRICE £6.95**

SUPER BREAKOUT
Breakout was the original simple yet totally addictive game and this enhanced version will provide even more addictive fun. Needs paddles.

ROM **OUR PRICE £3.95**

ONE ON ONE
Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves

ROM **OUR PRICE £7.95**

CAVERNS OF MARS
Winner of one of the first Atari programming competitions, this was one of the first vertical scrollers and remains much sought after - LAST FEW WITHOUT BOX BUT WITH FULL ORIGINAL MANUAL -

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MAXWELL'S DEMON
A simple yet challenging puzzle game which will get you totally addicted. In fact two games in one for double the fun

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One of the most famous platform games that has you running and jumping over everything in sight. A really classy game

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At the galaxy's rim, there are rewards aplenty to be harvested from a long-dead alien civilization. Fabulous graphic adventure

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For those who need a little more sophistication in a word processor, Letter Wizard gives you all of the features you would expect

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Entitled Writing Your Own Programs, comprises TWO cassettes and TWO workbooks and does not require Invitation To Programming 1.

CASS **OUR PRICE £2.95**

MUSIC PAINTER
An exciting educational program that helps to teach music by using colours instead of notes. For children or adults alike

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Some programs, especially some early public domain programs won't run on the XL/XE but they will if you plug in the old version of Basic.

ROM **OUR PRICE £3.95**

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A first computer experience for children aged 3 to 6 that teaches the concepts of above, below, left and right plus letter recognition

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EASY PROGRAMMING FOR YOUR ATARI MICRO
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If you are fed up with simple arcade style games but are not sure of the maths required in writing 'thinking' games like chess here is a book that will help you out.

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PD Paul Rixon's WORLD

THE STRANGE WORLD OF ALTERNATIVE LANGUAGES

In the last instalment of PD World we examined the subject of programming languages and specifically focused on the 'mainstream' packages such as Basic, C and Modula-2. This time we're going to look at a selection of more specialised languages, some of which are well known in the academic and scientific worlds. The languages may be different but you can rest assured that all the programs have one thing in common - they have been critically assessed by Page 6 to ensure they meet the demanding standards of the ST Library. If a disk's not brimming with good quality and value, you won't find it here!

OOPS!

One subject that's currently a 'hot' topic for discussion in the computing media is object oriented programming, or OOP for short. As the breakthroughs in computing technology continue to push hardware components to their limits, human programmers may find it increasingly difficult to cope. A method is required to simplify the representation of coding problems so that the complexities of entire systems are masked by a number of smaller modules, each of which can be maintained in their own right. **XLISP** is an experimental programming language merging some features of the more generally recognised LISP language with OOP extensions. XLISP has been designed to aid research into OOP techniques using various small computers - in the past, versions have also been produced for MS-DOS, Macintosh, Amiga and CP/M machines.

Many traditional LISP functions are provided within XLISP and, in addition, XLISP provides a data type known as 'object'. An XLISP object consists of a structure containing a pointer to the object's class (or object type) and an array containing the values of the object's instance variables (information about the object). Officially, there is no way to see inside an object (look internally at the values of its instance variables) so the only way to communicate with the object is to send it a message. The way in which the object acts upon the message it receives - and thereby produces the desired result - is independent of the surrounding program code and should therefore be very easy to comprehend and maintain - well, that's the theory anyway! The documentation is quite extensive but it assumes some knowledge of LISP and a basic understanding of OOP techniques. A standard version of LISP, known as Common Lisp and given the abbreviated title **C-LISP**, is also available.

NO ICONS

Despite its title, **ST ICON** has absolutely no connection with icons - in fact it's not particularly graphical at all! ST Icon is a high-level programming language with many facilities for processing strings and lists. It supports many data types including variable-length strings, lists, sets and tables with all their associated access methods. ST Icon also has a goal-directed evaluation mechanism (or so we're told!) that allows concise programming tasks to be formulated easily. Some of ST Icon's features are comparable to a language called SNOBOL4, which is more widely known. Possible applications include text analysis and generation, document formatting, symbolic mathematics and artificial intelligence. Developed by the Icon Project at the University of Arizona, ST Icon is produced for free distribution and entails no licensing or restrictions of use. As with X-LISP there is certainly no lack of supplied documentation and commercial publications are also available on the subject. Not one for beginners this, but those with an interest in programming styles will find it quite intriguing.

SPORTING STRIPES?

No, this has nothing to do with Lotus Cars - **ELAN 1** is actually a language developed in 1974 by a group at the Technical University of Berlin as an alternative teaching language to BASIC, and subsequently approved for use in German secondary schools. Elan is intended to teach the subject of systematic programming techniques - top down programming using suitable control structures and data structures, bottom-up programming using procedure and type declarations, plus a number of related programming styles such as recursive, modular and syntax-directed programming (phew!). If these terms are unfamiliar don't worry too much as Elan-1 promises to help you discover exactly what they mean! As with most language disks the documentation does not tell you how to program - it assumes the reader has a good knowledge of general programming methods and concentrates on the special features of the language. The manual starts with an example session, introducing the reader in a hands-on fashion to the use of the Elan programming environment. The second part commences with an overview of the full Elan language in the form of annotated syntax diagrams. This leads on to a description of the user interface of the programming environment and then several more ambitious examples. For those who want to learn more, a commercial reference has been published.

PROLOG

There are several other languages in the public domain which are aimed primarily at those who are already familiar with, or are currently studying, the subject matter. **PROLOG**, for example, contains no documentation other than brief installation notes (a full manual is supplied but written in German). The user is referred to Clocksin and Mellish's book 'Programming in Prolog'. The ST version is said to conform closely to that

described in this book so anyone with knowledge of Prolog should not encounter problems. There are various sample programs included so you should at least be able to gain some idea of how it works. Similarly, **FORTHMACS** is a version of the Forth language based around the famous Emacs text editor. The author claims
the program is virtually bug free, having spent four years working on different implementations. Instructions comprise an Emacs guide and a list of Forth keywords - but no introduction to the language, so the acquisition of an appropriate manual must be considered essential.

OH NO, IT'S IN GERMAN!

If all else fails, you may consider an attempt to decipher the German instructions supplied with certain public domain disks. If this is the case, a utility disk named **TEXT TRANSLATOR** may prove to be rather handy. The disk contains an upgrade to the translation package TXLat which originally appeared on an earlier library disk. There are two main programs - one providing a 'brute force' word for word translation of an ASCII file from a foreign language into English, and one helping to update the system's dictionary file. The package is aimed at users who have no knowledge of the language from which they are translating. It simply replaces words in the source file with their English equivalents, according to a dictionary listing stored elsewhere. The program makes no attempt to re-arrange words where the rules of grammar differ between English and the source language - the context of each word is ignored. Although this isn't ideal, it's surprising how much information you can glean from instructions that would otherwise be incomprehensible!

A fairly large German dictionary is supplied, though the software has been designed to allow the easy expansion of existing dictionaries and the creation of new ones for any language. A very comprehensive instruction file is provided on the disk (written in English, of course!). The software will operate on a 520ST with one doubled sided disk drive but this configuration may prove frustrating when it comes to editing dictionaries - certain documented bugs may also be encountered. Apparently the author is now working on a translator for binary files so that German programs can also be converted. Sounds interesting!

GFA HELP

Now for an update on last issue's delve into 'mainstream' languages. Users of the commercial system GFA BASIC can now get even more assistance following the release of **THE ULTIMATE GFA DATABASE**. It's not actually a database program but rather a collection of references to articles in disk magazines, ST Format and GFA User. The article text is not on the disk itself but you are directed to the publication which may have the answer you've been searching for.

A CENTURY!

Believe it or not, the Page 6 ST library will shortly be topping a total content of one thousand disks! If you receive the regular Library Updates you will know that a new PD catalogue is being prepared and, as a result, some early disks are due to be removed from the library. Until August 31st members of the PAGE 6 ST Club can purchase any of the first 500 disks at the ridiculously generous price of £1 each (subject to a £5 minimum order), whilst non-members should also order their requirements as soon as possible to avoid future disappointment. At present details of the library re-shuffle are unknown but this could be your last chance to obtain some of the great programs featured in past PD World columns.

NO WINNERS

Finally, an announcement regarding last issue's mystery competition. The fabulous prize of six weeks holiday for four in Bermuda was on offer to the first person who spotted that the Sobozon C compiler should in fact have been referred to as the Sozobon C compiler. Unfortunately no entries were received by the closing date - shame about that!

HOW TO GET THEM

The disks featured in PD World can be obtained from the PAGE 6 ST library. When referring to a specific disk please use the unique reference code for identification. A printed catalogue describing all the library disks in detail is available from PAGE 6 at a cost of £1.95, refundable against the first few disks ordered. This includes a copy of THE PAGE 6 CATALOG DISK which is otherwise priced at £1. The disks featured this issue are:

ST30 ST ICON LANGUAGE
ST32 XLISP V1.7
ST157 FORTHMACS
ST227 ELAN 1 PROGRAMMING LANGUAGE
ST657 PROLOG
ST710 C-LISP
ST766 TEXT TRANSLATOR
ST824 THE ULTIMATE GFA DATABASE

Prices for standard disks are £2.95 each or £2.50 each for five or more but prices are lower for members of the PAGE 6 ST Club
Write to PAGE 6, P.O. Box 54, Stafford, ST16 1DR
Telephone 0785 213928 with credit card orders

ORBITER

I've tried several Space Shuttle simulation programs over the years, but on the whole I've found them disappointing. They seem to concentrate on simulating procedures rather than action, and for some reason rarely exploit the Atari sound and graphics capabilities. Perhaps Orbiter will prove the exception?

It's actually a fairly ancient program, dating from 1986. This was the year Space Shuttle Challenger exploded shortly after lift-off killing the whole crew, so the program's authors dedicated Orbiter to their memory - a thoughtful touch. It's supplied on two single sided disks and runs on any Atari ST(E) with at least 512K memory and a colour TV/monitor. Two disk drives are supported if you have them. The package also includes a 74 page instruction manual (written for the Apple Macintosh version), a supplementary Atari instruction sheet, and a "quick reference" sheet listing all the program's commands.

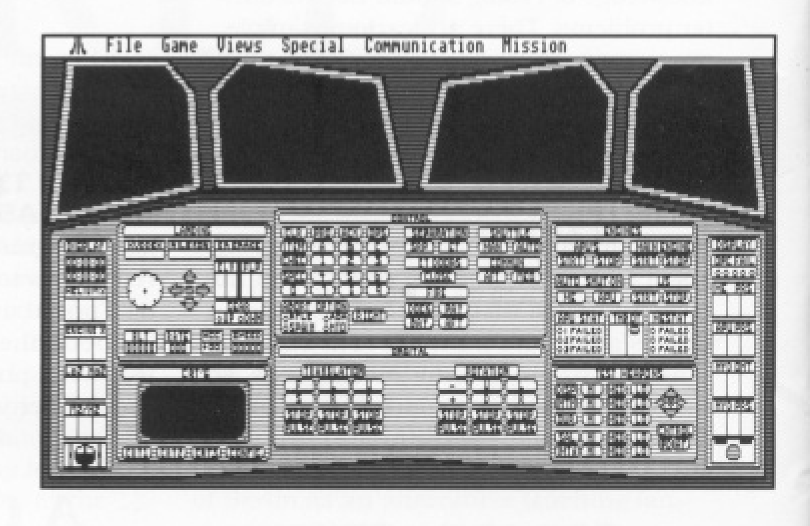
Orbiter has a number of scenarios including training, deploying and retrieving satellites, rendezvousing with and repairing satellites, and variations on these themes. You can choose the type of mission you'd like, or let Mission Control decide. You can also choose which mission phases you'd like to fly - launch, orbit (including the main mission task), and landing, or any combination of these.

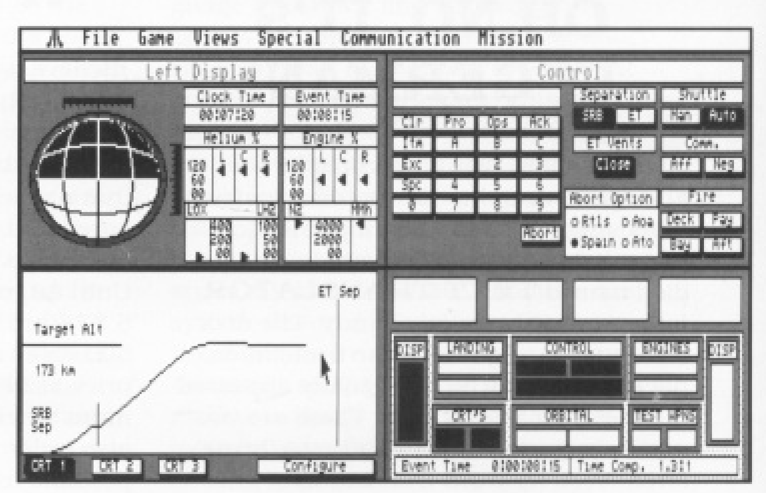
SYNTHESISED SPEECH

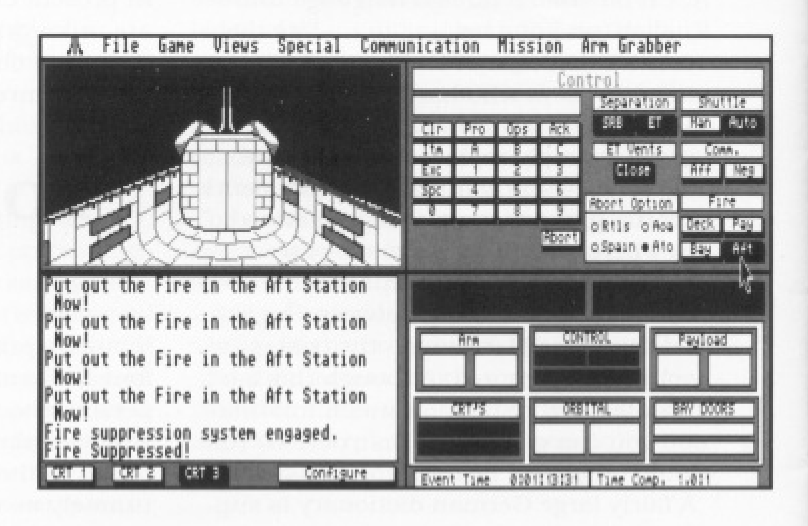
I was pleasantly surprised to hear synthesised speech over the title screen - a promising sign, even though the speech sounds rather "robotic". In fact speech is used throughout the simulation, representing the voice of the Mission Controller who literally talks you through the mission. Unfortunately there's not much else in the way of sound - speech, engine noise, and the odd bang and ping just about cover the program's sonic repertoire!

The programmers have obviously tried very hard to make this simulation as detailed as possible, and have included a vast amount of the Shuttle's instrumentation and controls. In fact, there are far too many control panels and computer displays to show onscreen at once with any clarity. This problem has been solved by dividing the ST's

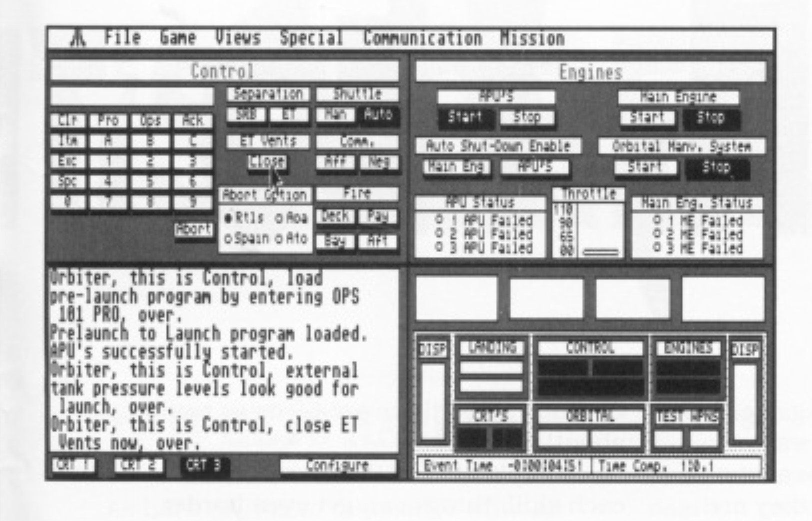
Title:	**ORBITER**
Publisher:	**Spectrum Holobyte**
Price:	**Varies**
Reviewer:	**John S Davison**



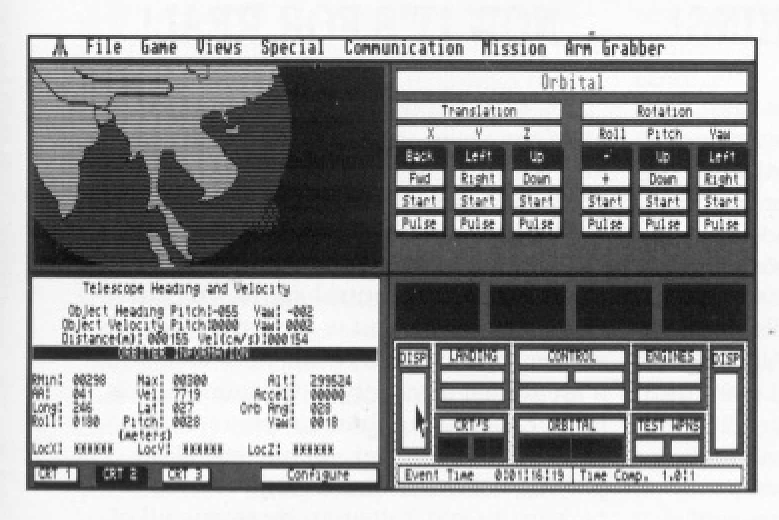


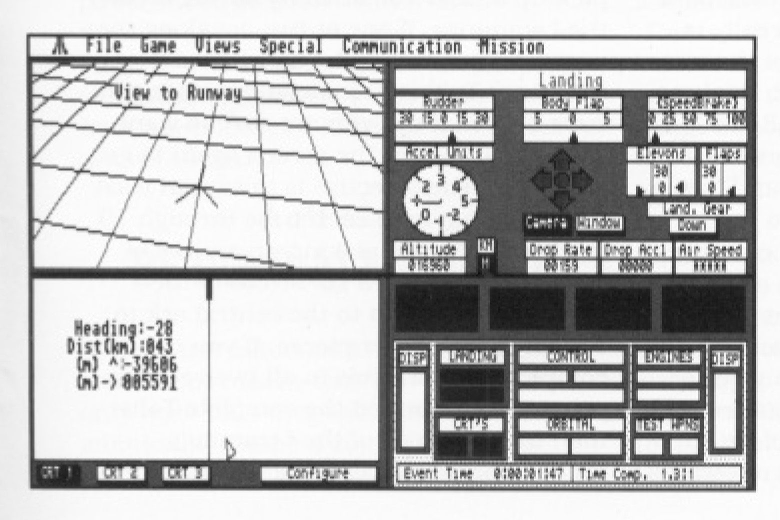


Seven stages in a Shuttle flight









monitor screen into four "windows" into which you can load your choice of panels, displays, or even the view outside the Shuttle. The only problem is knowing which panels you need when, but you learn this with practice.

You can select a training mission to begin with, which steps you through all the tasks involved in launching the Hubble Space Telescope and returning safely to Earth. Mission Control provide step-by-step instructions, both spoken in that robotic style voice and displayed on one of the Shuttle's computer display screens. There's also additional information available in the instruction manual. Once you've got the hang of things you can move on to "real" missions.

ROBOTIC ARM

In addition to launch, orbit, and landing procedures you also have to handle various mission specific tasks. This can involve deploying satellites using the Shuttle's Remote Manipulator System, a robotic arm designed for lifting satellites into and out of the cargo bay. You may also have to find and repair malfunctioning satellites; or capture them, load them into the cargo bay and return them to Earth. You could even be asked to add new modules to a space station, which may involve a space walk using the strap-on jetpack system known as the Manned Manoeuvring Unit. There are also various hazards (such as fires) and Shuttle malfunctions (like engine failures) to contend with. Most problems can be dealt with by pressing the appropriate button, but some simply cause the mission to end abruptly - usually with your immediate demise. Very frustrating, as you have no control over this.

Orbiter sounds complicated, but seems to require very little real skill to use. Almost everything has been automated, so your role consists mainly of loading appropriate programs into the Shuttle's onboard computer and pushing buttons to initiate automatic procedures. True, you can perform some tasks (e.g. landing) in manual mode, but for me even this didn't boost the interest level much.

Although the instrumentation graphics are quite well handled there's not much else to see. You can look through the Shuttle's windows and get an occasional glimpse of a satellite, the Earth, the Moon, and a few stars (which inexplicably change position in a crazy, random way). The graphics for these are crudely drawn and very poorly animated. The landing phase graphics are particularly disappointing - I'm sure I've seen better results on a Sinclair ZX81!

Orbiter has done nothing to change my view of Shuttle simulators. It's certainly more comprehensive than anything I've seen before, but it's still really just a complex procedure simulator. I just didn't get that feeling of real involvement in the action - there's nothing to give you that buzz of excitement you get from using a good flight simulator, for instance. Poor graphics obviously don't help, and nor do frequently aborted missions through random failures beyond your control. In fact it doesn't take much for the program to become frustrating and boring to use. Regrettably, I can't really recommend Orbiter - it's likely to be of interest only to confirmed Shuttle freaks!

OH, YES ... IT



Just when you though it was safe to go back to your computer! A huge number of ST owners must have become seriously addicted to the original Lemmings and had that addiction fuelled by Oh, No. More Lemmings! but, just as most of you have finally fought the temptation to try one more time, along comes whole tribes of Lemmings!

Surely they can't make three games out of the same idea? Well, it all depends on how many changes are made to the concept and I can tell you that Psygnosis have made such significant changes that you are sure to become addicted once again. This time, there is so much depth to the game that your addiction is liable to become much more serious. No matter how difficult you thought the original Lemmings, this is seriously harder.

ALL OVER THE WORLD

In Lemmings 2 Tribes there are not only a dozen different worlds to explore and save the tribes in, but also a whole host more Lemmings to contend with. I don't mean more in numbers but more Lemmings with more skills than ever before. You will also find some of your past friends missing on many screens, especially the most useful of all, the Blocker. In this new game there are several ways of blocking the advancing hordes but they are much more subtle. Gone are the days when you could put a couple of blockers either side of the advancing army and leisurely figure out what to do. There is however pause (or 'paws') mode and I highly recommend that you use it on each new level to give yourself a chance.

WE CAN DO ANYTHING!

The Lemmings now are divided into groups with various allied skills and so we now have eight Lemmings with different Wind Skills, eleven with various Ground Removing Skills, seven with different Building Skills, half a dozen with Shooting Skills, ten sorts of Movement Skills and another ten with skills that don't fit a particular category. All in all, that's a lot of different types of Lemming to remember! Luckily you can practice before trying to save lives for real, and you can pick eight different types per tunr which you can use on a choice of four practice screens. Practice really is essential to see just how each of the skills is used. For example Club Bashers, Fencers, Bashers and Miners all cut through the landscape ahead but they all do it in a slightly different way and it is important to know which one to use.

Any skill can be given to any Lemming as before but some of the skills are temporary and some are permanent so you do need to plan ahead and try and remember which skills have been given to which Lemmings. The Lemmings are bigger and more animated than before but, even so, it is still hard to figure out which is which when there are 60 or so running about!

As complicated as it is to remember each skill, things can get even harder when certain skills require outside influence as well. Take the Wind Skills for instance. Here you can have Ballooners, Surfers, Twisters and Parachuters who will all do the obvious but who will only progress in the right direction if you use a fan to blow them along. Careful use of the fan is essential if you want to make use of these skills before they disappear. Twisters can, for example, be blown into the ground to make tunnels but as soon as they leave the ground their skill is lost so you need that practice screen once again.

NOW IT'S FOR REAL!

Let's suppose that you have practised all of the skills - that is all 52 of them! - and you want to start saving some lives. You now have a choice of twelve different lands to play in, arranged on a map in similar fashion to Disneyland with each radiating from a central spiral. Of course the aim in each land is the same, to save all the Lemmings, but this map idea adds a great deal of variety to the game and is more challenging than simply reaching level 56, or whatever, on one standard playing field. The aim in each level is to pick up a Gold Talisman by saving all of the Lemmings. If one or two die along the way then you can make do with a Silver or Bronze Talisman instead but once you have figured it out you are sure to want to go back and try the screen again to get that Gold. The objective is to save at least one Lemming from each tribe through 10 levels of his world picking up a piece of the Talisman as you go. Pieces of the Talisman are taken to the central ark to be joined with other pieces. If you can complete all the levels in all twelve lands you will have formed the complete Talisman which lets all of the Lemmings escape from the island. Some chance!

IT'S MORE LEMMINGS!

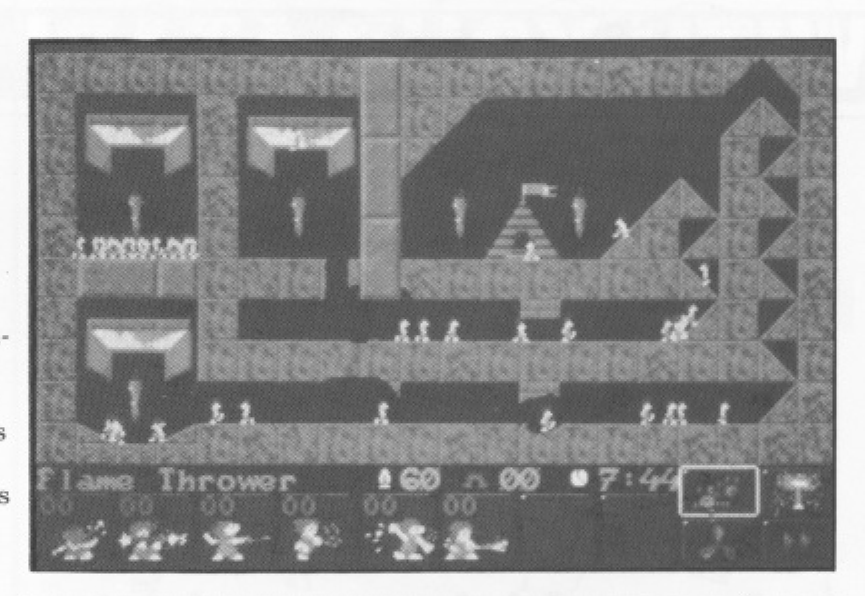
IT GETS HARDER!

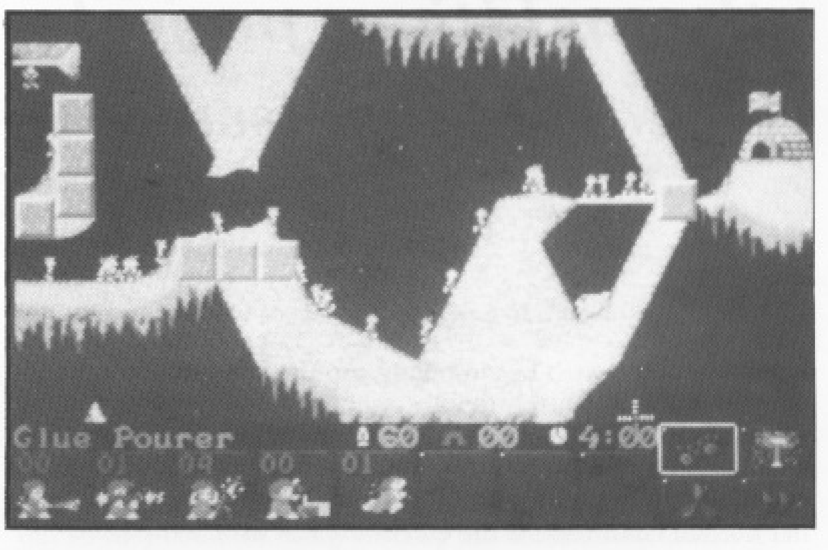
As hard as it is to remember what all those Lemmings can do, things are made harder by the fact that only the number of Lemmings saved on one level can be taken to the next. If you just about scrape through one screen you are unlikely to have enough Lemmings left to conquer the next so you need to keep playing a level until they are all saved. Once à level is completed you can play it again, return to the map to choose another land or save the game. The last option seems sensible or you will find the hours slipping away and dawn breaking outside!

The other thing that makes life difficult is that you cannot choose what skills your Lemmings can have. On each level you are allocated a select number of skills and the number of Lemmings that have each skill. You will often find that skills you could really use are not available and not enough Lemmings with a particular skill to go round. On each level the skills and numbers are carefully chosen for you so that, used correctly, you can solve the puzzles. Make one mistake though and you will run out of a skill just when you need it. In this case there is no option but to Nuke the lot, as before, only this time they will each scream out as they are blown to bits! If you carefully study each level (use that pause mode as soon as they drop through the trapdoor) then you can work out just where and when to use the skills you have, but several levels do appear to have a number red herrings so it is not always obvious.

BETTER ALL ROUND

One of the refinements, and presumably one of the reasons that Lemmings 2 will only work on 1 Meg machines, is the addition of sampled sound to the proceedings. Great fun can be had by just listening to what is going on. If a Lemming falls to his death, a piercing death yell will be heard. If he just falls and stuns himself, an 'Owww' is muttered as he lies in a heap with stars twirling around his head. A few seconds later he will be up and running. The best sound of all though is the 'Yippee' as a Lemming reaches the exit. Sixty 'Yippee, yippee, yippee's in a row, however can sound a mite strange!





Almost every aspect of the game has been improved over the previous versions from the variety of skills available, to the graphics in the various worlds, to the variety of puzzles. There is much more music, added sound effects, many more levels and better animation than before and Lemmings 2 will have you more hooked than ever.

Cancel all your engagements, tell the lads you can't make it to the pub, because you are going to be saving Lemmings almost every night of the week. Unless of course it drives you completely up the wall because it is so damned hard!
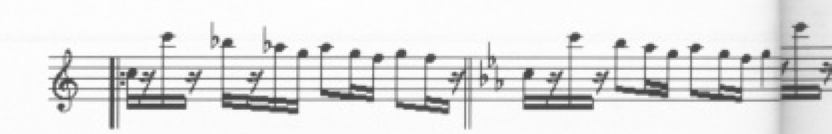
Games like this shouldn't really be allowed or, at least should have warnings about the degree of addiction likely to be encountered. There is no government warning on the box, though, so approach it carefully if you are the type that gets easily addicted.

Yes it's a real cracker.

'Seriously addictive'

LEMMINGS 2 the TRIBES
Psygnosis
£29.95
Reviewed by Les Ellingham

MAKING MUSIC WITH YOUR ATARI



THE ALBATROSS

John S Davison's has made good progress on the ambitious project started last issue

In the last issue I began telling you the story of how my friend Derek West and I are using our Atari ST's to publish sheet music for The Albatross. This, if you remember, is a march originally written for the RAF bands by composer Greta Wilens, which didn't get published through her normal channels. At the end of the last article the handwritten score for the 21 part band arrangement had been entered into Notator, our chosen software package for the venture, and we were about to start experimenting with printing. This article describes the fun and games we had trying to get the music onto paper in saleable form.

To produce printed music your printer has to be capable of working in graphics mode. Music contains lots of curved and sloping lines and edges, so a high resolution mode is needed for good results - the higher the better. Low resolution results in jagged edges and stepped lines which just isn't good enough for professional use. Ordinary 9-pin dot matrix printers operate at 72 dots per inch, which is inadequate for our purposes. 9-pin microfeed and 24-pin printers push this to 180dpi, which is just about acceptable. For truly professional looking output you really need a laser or ink-jet printer operating at 300dpi or more. Our original plan was to use my Star SG-10 9-pin microfeed model for the whole job, but then we decided we'd use this just for the basic layout and proofing work, then borrow or hire something better for output of final masters from which the band copies could be produced.

Notator is supplied with a large number of printer driver files, known as "printer adaptations". But guess what? There's no Star SG-10 adaptation provided. However, there is an editing facility for customising the supplied adaptations to suit any printer, so at worst we could build one ourselves.

DIP SWITCHES

Before doing that the manual suggests you try all of the supplied adaptations for your make of printer in case one of them works anyway. We did, and they didn't. The SG-10 is Epson compatible so we also tried various Epson drivers, but all we succeeded in doing was driving the printer crazy with data streams it couldn't understand. Just before it became totally demented we remembered ...... DIP switches! A quick check established they were set incorrectly for what Notator was trying to do. Once corrected we found the Star NL-10 microfeed adaptation supplied produced good results with the SG-10. The only trouble was that it took about ten minutes to print out a page of music, which was far too slow when you're experimenting and need quick turnaround. So, we switched to my 9-pin IBM ProPrinter which is about twice the speed, but again had to waste time finding a suitable printer adaptation.

As described in the last article we initially entered only the "bare bones" of the score, i.e. the basic musical notation without any performance symbols or text. Initial tests produced very encouraging results - the music looked clean and clear on the printed page, both for the full score and the individual instrumental parts which we extracted from it. There were a couple of problems though - the 21 staves of the conductor's score wouldn't fit onto an A4 page, and Notator wasn't labelling the staves with instrument names in the traditional way. It positioned them above each staff instead of in the left margin in front of it. Hmmmm!...we decided to press on and solve these problems later.

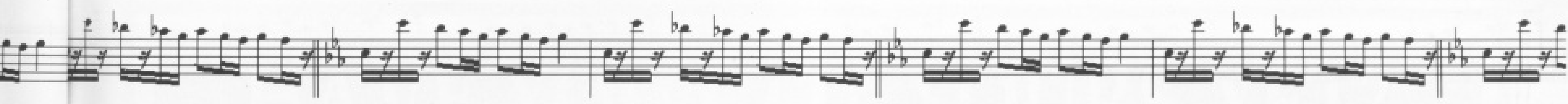
The next step was to add performance markings to the basic music notation. These include such things as slurs and phrase marks; staccato dots; "hairpins" to indicate crescendo/decrescendo effects; text symbols for dynamics (pp, mf, ff, etc.); repeat bar markings; rehearsal marks; and so on. We also needed to add text for the title, credits, and copyright notice. Instrument name subtitles also needed adding to the top of individual instrument parts.
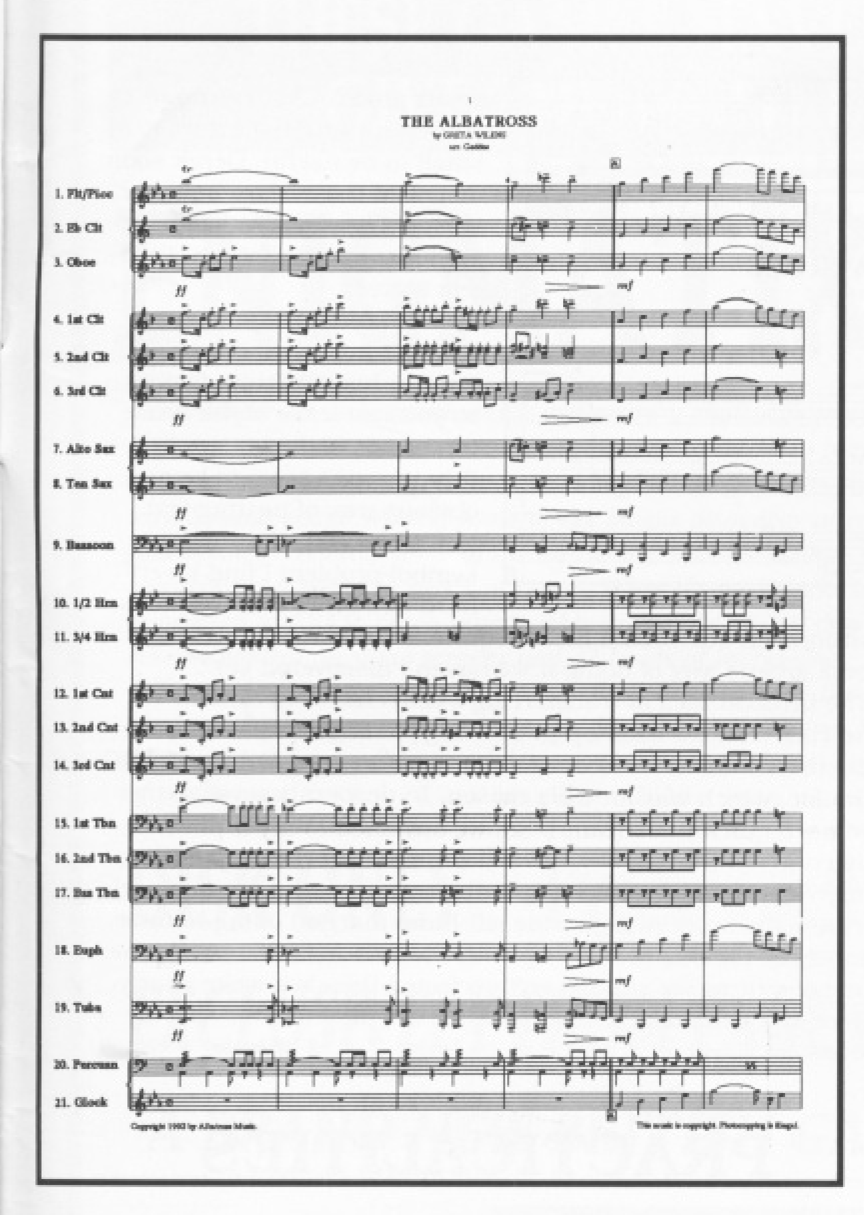
Adding performance markings is easy with Notator - just point and click on the symbol you need, point and click where you want it positioned, and it's there. If it's the wrong size you can stretch or shrink it, and even alter the curve of phrase marks or the angle of the hairpin lines for the best aesthetic effect. You can then slide the symbol around with great accuracy for final positioning. Notator really is excellent in this area.

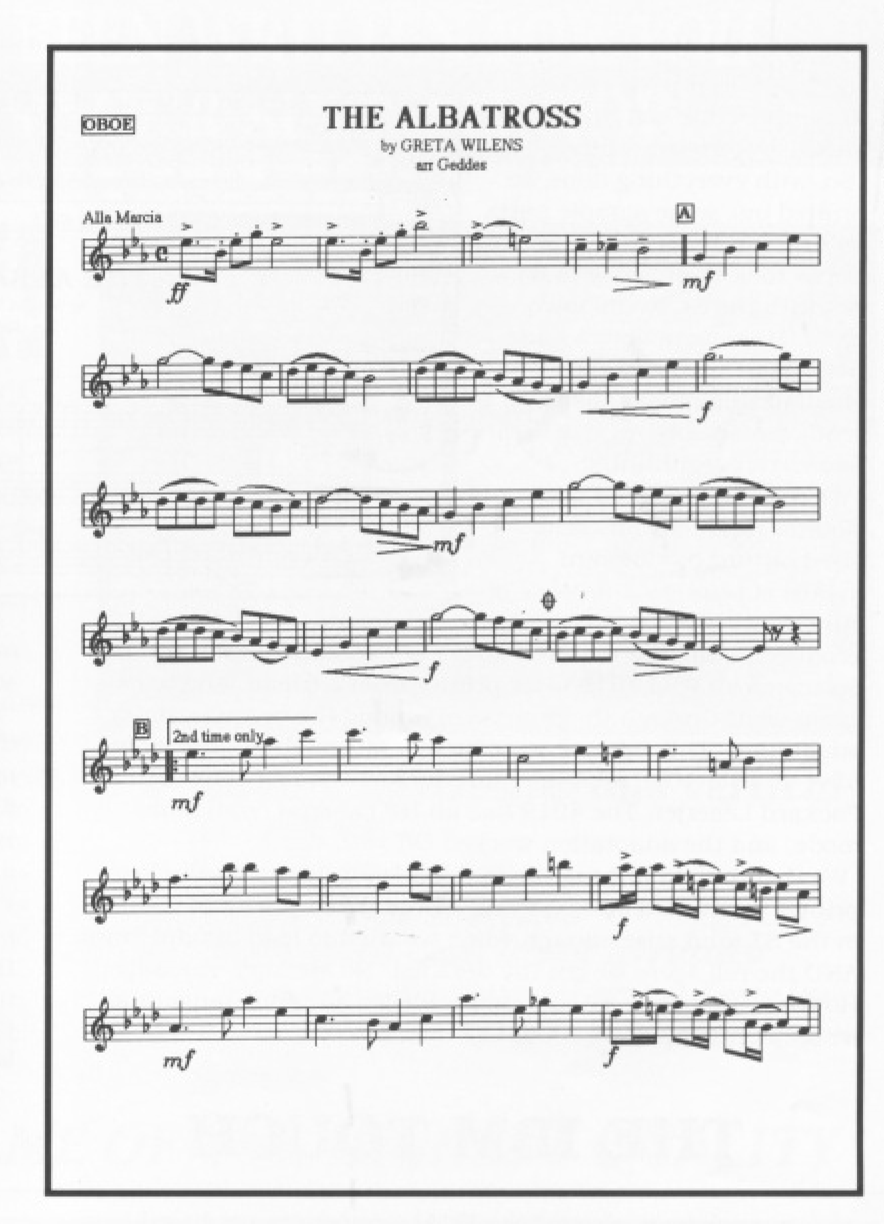
TEXT PROBLEMS

Adding text caused us headaches, but as with most things once you know what you're doing it's easy. Notator comes set up with one internal text font in three sizes, and at 72, 180, and 300dpi resolutions for use in screen display and the three main types of printer. These can be scaled to produce several additional sizes, but as they're bit-mapped fonts the results tend to be less than professional looking.

To get round this you can also load in up to 13 additional GDOS bit-mapped fonts. Our version of Notator (SL 3.16) provides two main text fonts (Helvetica and Times Roman







Two pages from the final laser printed score reproduced here at just over 40% actual size. On the left is the full arrangement for the conductor and right is the part for Oboe. Twenty-one such parts, one for each instrument, have to be produced

equivalents) plus supplementary symbols and chords fonts in the three required resolutions. The text fonts are supplied in 10, 12, 18, and 24 point sizes and may also be scaled, but with the same limitations as the internal font.
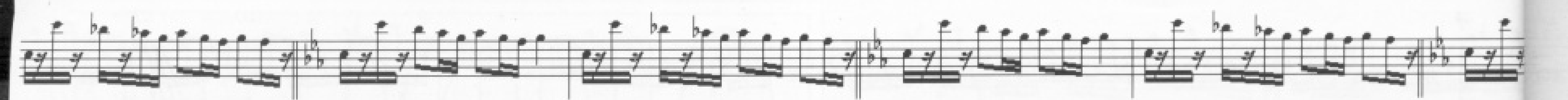
We chose 18 point Times Roman for the main title and 10 point for everything else, and after much headscratching and manual studying found out how to correctly load and use them. You can also apply variations to the basic font - making it bold, underlined, boxed, italic, etc. We put this to good effect, for example by using a bold 18 point title, and boxed bold 10 point for instrument names on the individual instrument parts.

There then followed a period of extreme frustration. We tried to get the main title, composer's name, and arranger's name centred on three lines at the top of the first page of the score. This just would not work - we'd get it nicely positioned on the screen, but the layout was completely messed up when printed out. We eventually got the printout looking right by trial and error - sliding the text items around relative to each other on the screen until the printout came out correctly. But the screen layout then looked completely wrong. What's more, the required screen positioning seemed to be completely different on every instrumental part. This was crazy - whatever happened to WYSIWYG? After much messing around we eventually hit on the answer. We'd missed the vital fact that you can ask Notator to automatically justify the text you enter - it can be left, right, or centre justified on its line. Once selected it looked right on the screen AND in the printout every time. Ever felt like a complete idiot? This was one of those times!

PAGE LAYOUT

The next stage was to get the instrumental parts nicely laid out so they could be easily read by the musicians. Notator lets you choose the number of bars of music to be printed on each line. This is a good starting point, but doesn't take the number of notes in each bar into account. Sometimes there's only one note, but there could also be dozens. In the latter case the music could become unreadable, with the notes crammed tightly together. Notator's print preview mode gives you a rough representation of the whole page layout and lets you quickly shuffle bars from one line to another until the layout looks right. The performance markings don't always move correctly though, so a little editing is also sometimes necessary. In spite of this the feature is extremely useful, avoiding the need for lots of trial printouts.

One essential task was to print copyright notices on each sheet. After our months of hard work we wanted to discourage people from simply photocopying it. Unbelievably, Notator doesn't include a copyright symbol, not even in the supplementary symbol set, so we had to use straight text. I had problems positioning it too - each instrumental part is spread over two pages, but didn't fill the second page. Notator wouldn't let me put the text at the very bottom of the second page - it had



to go under the last line of music, which was a pity.

So, with everything done we printed out some sample parts on the IBM ProPrinter and Derek took them away to try out with the St. Neots town band. He returned with bad news. The music was too small for the musicians to read comfortably. Aaaaarrrrgggghhhhh!!!

We'd already noticed that Notator produces different sized output on different makes of printers, but none of ours (Star, IBM, or Panasonic) produced quite the required size. For experimentation we then borrowed an IBM 4019 laser printer from a friend, and once again went through the process of finding the correct printer adaptation. This time we were lucky - although Notator didn't have an IBM 4019 adaptation, it did have one for a Hewlett Packard Laserjet. The 4019 has an HP Laserjet emulation mode, and the adaptation worked OK with this.

We then had to rethink the fonts, as to fully exploit the laser printer we needed 300dpi fonts. These take up a lot of memory in the ST, and sure enough when we tried to load 300dpi fonts AND the full score we got the dreaded "No Memory" message. However, there was enough available for handling individual instrumental parts at 300dpi.

THE IBM TOUCH

A few quick tests showed the IBM laser printer produced superb quality output at the right size. After a little re-editing of the layout we tried to print the first instrumental part. And guess what? Our page of output was far too big for the 4019's memory - it only had 512K, which was fine for general use but not enough for full page graphics at 300dpi! It's expandable up to 3.5MB, but we weren't about to spend the serious money required for this. Was there no end to the hassle?

After more headscratching we decided it ought to be possible to run the laser printer at 150dpi resolution, using Notator's 180dpi fonts. We even found an HP Laserjet printer adaptation ready made to do this. And it worked! True, the printout wasn't as nice as 300dpi, but it was the right size and perfectly usable. At last, we were getting somewhere. But there was still a slight snag. Notator insisted on printing each page TWICE and sometimes threw in a couple of blank sheets for good measure - that's four pages for every one we requested! We knew the printer was OK, as it worked fine with other software. The software supplier's help-line people are now investigating, but we don't have an answer yet.

It was now time to solve the two problems with the conductor's score. How could we format and size it so it fitted onto an A4 page and still remain readable, and also position the instrument names in their traditional places? We didn't want to use larger size paper so that left only two options - squash the staves closer together or make the printout physically smaller somehow. The first option is easy with Notator: using the mouse you just drag each stave to the required distance from the one above it. We tried this, but on printout the page looked unacceptably cramped. So, it had to be smaller output (after we'd spent ages making it bigger for the instrument parts!).

Notator has a "miniaturise" setting, which reduces the size of any or all staves to about half size. Using this the score fitted easily onto A4 with room to spare, but I thought it was too small to be useful. Derek soon dispelled these fears however, saying it was perfectly adequate for conducting from. Problem solved.

The instrument name problem was harder to crack. Notator has a margin facility so you can leave blank space on the left of the staves, but there doesn't seem to be an obvious way of putting text into it. As with the copyright symbol problem I find it very hard to believe that Notator's authors left out such a basic requirement. Perhaps there's some arcane way of doing it we haven't discovered yet?

The brilliant idea of transferring a .IMG file from Notator to the TimeWorks 2 desktop publishing package and adding the text there failed when TimeWorks wouldn't read Notator's .IMG files for some unfathomable reason. In desperation we settled for a very messy two-pass printing approach. We printed the instrument names down the left-hand side of the page with TimeWorks, then put the paper through the printer again and printed the score (with a wide left hand margin) using Notator. Hopefully the staves lined up with their associated text. At the time of writing we still haven't perfected this, but we're nearly there and should be able to produce the final master sheets soon.

PRACTICALITIES

But now we have a new set of problems - how to produce something practical from the masters. Separate A4 sheets are no use on a music stand, they have to be bound together so they don't fly about or get out of sequence. Each instrumental part is two pages long, so the obvious solution is to photocopy the A4 masters side-by-side onto an A3 sheet then fold it in half to make a two page A4 booklet.

The conductor's score is rather more difficult. It's ten pages long so we'll have to photocopy pairs of A4 masters onto A3 sheets, fold them down the middle, then staple them together to make a ten page A4 book. We're also including a title page produced with TimeWorks to add the finishing touch. To complete the package the score and parts will be put into a neat plastic wallet to ensure everything stays in good condition when not in use.

We're now forming a music publishing company, provisionally called Albatross Music, to market the finished product and are about to mailshot bands likely to be interested in adding The Albatross to their repertoire. In the highly unlikely event that anyone reading this would like more details, please contact Derek West on 0480-219035.

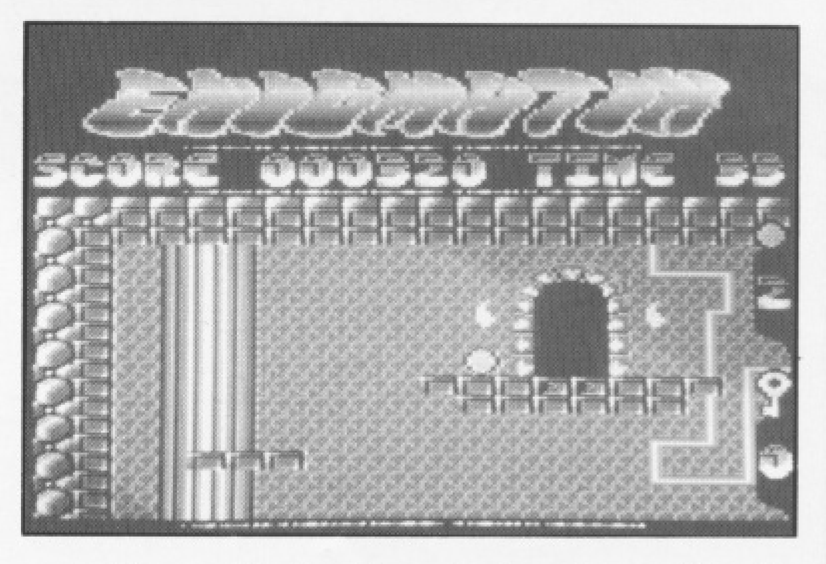
So, Notator and the ST finally proved themselves up to the task we set them. Many of the problems we hit were of our own making, but we were still a little surprised at some of the (generally minor) deficiencies we found in Notator. Just goes to show - you have to use a software package on REAL work to find its limitations.

It's taken many months of hard work to get to this stage, and all we need now is to sell a few copies of the music so Greta's creation can get the public performances it deserves. I'll be happy if we cover our costs. We might even make a profit, but I'll believe that when I see it!

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ENIGMATIX!



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EXCLUSIVELY FROM PAGE 6

A BRAND NEW BRITISH GAME OF THE HIGHEST QUALITY

PAGE 6 is proud to be able to bring you these two superb new releases for the XL/XE. There are still a number of programs being released for the XL/XE but we have always been extremely selective so you can be sure that new programs from PAGE 6 are of the highest standard. ENIGMATIX is the first major program from a British programmer for some time and we are proud to make it available.

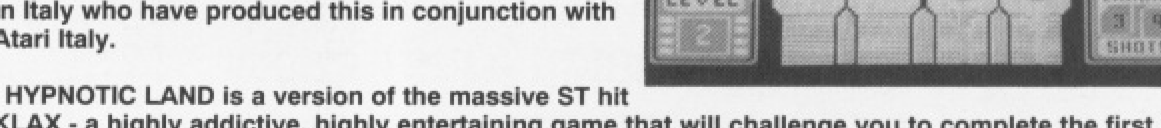
To order these products use the order form enclosed with this issue or telephone your order to us on 0785 213928. We accept Visa, MasterCard and Switch

A BRAND NEW XL/XE ROM CARTRIDGE! EXCLUSIVE TO PAGE 6!

HYPNOTIC LAND

Yes, believe it or not, we have tracked down a brand new ROM CARTRIDGE for the XL/XE from Lindasoft in Italy who have produced this in conjunction with Atari Italy.

HYPNOTIC LAND is a version of the massive ST hit KLAX - a highly addictive, highly entertaining game that will challenge you to complete the first few levels and have you coming back for more - again and again!



The aim in HYPNOTIC LAND is to redirect mineral elements in the form of coloured balls into the corresponding coloured cup at the end of a ramp. To do this you must place arrows on the ramp to redirect a ball into an adjacent column. Remember to only put green balls into the green cup and so on. It seems easy but once you have mastered the first level, some despicable monsters start to appear to try and steal the balls. You can shoot them with the joystick but don't forget you also have to keep one eye on the ramp! Sometimes special shining extra-balls will appear which can go in any cup and give bonus points.

HYPNOTIC LAND requires skill, concentration and quick reflexes. Can you manage it?

Like all the great classics a simple concept that has provided the foundation for a stunning and addictive computer game

HYPNOTIC LAND is on ROM CARTRIDGE and will run on all XL/XE machines

A BRAND NEW ROM for £12.95



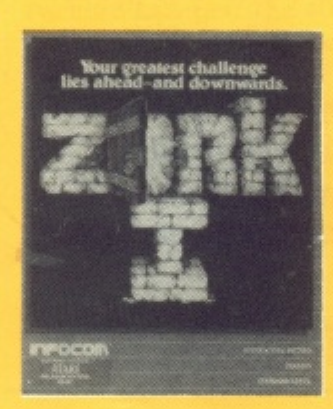
FREE

WITH ORDERS OF £15 OR MORE

Yes, a ROM CARTRIDGE absolutely free if you order software from The Accessory Shop that comes to £15 or more (excluding postage). Designer's Pencil is a graphics and sound based programming language that anybody can use to create great pictures and sound on the Atari - even if you haven't got a clue how to program in Basic! It could give you hours of fun and a great sense of achievement when you create something really good - and it won't cost you a penny!

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The Infocom classic and the adventure game that changed the way all future adventures were written. The Great Underground Empire of Zork is well documented by now and thousands of players have become addicts graduating to Infocom's more difficult adventures. Zork I is the ideal introductory level adventure for beginners or those with a little experience. If you have never ventured underground before now is the time to try, it's never been cheaper to expand your universe! Classic original Infocom packaging with excellent manual and a map.

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The most famous board game of all time on your Atari! Trivial Pursuit on your Atari takes on a new dimension - not only are there questions to answer but graphical puzzles to solve and tunes to guess, sometimes played backwards! Over 3,000 questions makes Trivial Pursuit the ultimate quiz experience for family and friends

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THE TAIL OF BETA LYRAE

Our A-Z of software says "The ultimate Scramble clone with superb graphics and music. This humdinger of a horizontally scrolling shoot 'em up was written by Phillip Price with music by Gary Gilbertson. They later went on to write the Alternate Reality games". One of the few original classics, right up there with the top arcade games of all time. Give you eyes, your ears and your reactions an unforgettable treat!

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ON CASSETTE ONLY 95p!

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SUPER SPECIALS

MAXWELLS DEMON

Check out the review in Issue 49. Paul Rixon found this simple game to be quite addictive and at this price can you afford not to become addicted! It's a different type of game, more in the Tetris mould than an arcade game. It sure makes you think and the price won't break you if you don't get fully hooked.

DISK ONLY — *Recommended price £9.95*

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MR ROBOT & HIS ROBOT FACTORY

One of the most famous of platform games that has you jumping over fire, running over breadmills and bombs, climbing ladders, sliding down poles and more with some great graphics. Master all 22 screens if you can and then create your own for neverending fun. This is what platform games are all about.

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ZAXXON

One of the all time classics for the Atari, Zaxxon set new standards when first issued and was copied many times. Pilot your craft across the unique 3 dimensional battlefield shooting enemy fuel tanks, anti-aircraft tanks and missiles before launching off through space for the ultimate conflict with a mighty robot - few have got this far! Zaxxon, often copied, never bettered and NEVER at this incredibly low price!

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